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**AN EXPLORATION OF PROFESSIONAL PREPAREDNESS OF  
INSTRUCTIONAL DESIGNERS TO EVALUATE**

by

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A Dissertation Submitted to the Faculty of  
Old Dominion University in Partial Fulfillment of the  
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

INSTRUCTIONAL DESIGN AND TECHNOLOGY

OLD DOMINION UNIVERSITY

May 2019

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## **ABSTRACT**

### **AN EXPLORATION OF PROFESSIONAL PREPAREDNESS OF INSTRUCTIONAL DESIGNERS TO EVALUATE**

Philena V. DeVaughn  
Old Dominion University, 2019  
Director: Dr. Jill E. Stefaniak

Formative, summative, and confirmative evaluation of instructional products determine whether learner objectives have been attained and substantiate the value of the instruction. The ability to implement an evaluation plan is classified as an essential skill for instructional designers by the International Board of Standards for Training and Performance Improvement (IBSTPI). Previous research has ascertained that entry-level instructional designers have failed to master the skills required to create evaluation plans.

The purpose of this qualitative study was to examine the professional preparation received by instructional designers, for instruction evaluation, through graduate level programs. The data collected for this study was the result of curriculum mapping 16 Masters and Ph.D. instructional design programs and conducting 29 semi-structured interviews of faculty and postgraduates of these programs. The study was designed to compare the curriculum map data with faculty and graduate responses of each respondent university. Gaps were identified in the instruction of evaluation within current instructional design programs. These gaps potentially impact the significance given to conducting an evaluation, and the opportunity for data collection, to support research in this area.

The data could assist the participant institutions in curriculum planning to support improvements in ID student preparation. The findings also reveal the primary focus of the participant programs was preparing students to execute an effective design. Evaluation was not

prioritized for most programs, due to lack of time, client resources, employer lack of interest, and limited faculty experience in evaluation.

This dissertation is dedicated first and foremost to my Lord and Savior, Jesus Christ. I could not have completed this monumental task without faith in His Grace, Love, Protection, and Blessings. Next of course are my children, Alexander and Mikaela, you have encouraged and inspired me in ways you will never understand. You have sacrificed with me to complete this journey. I am so grateful for the love, support, patience, and encouragement, that you have provided. You are both so awesome. My mother, Edna, my siblings Rudy, Veda, and Pamela have loved me through the challenges of my life, and without their support I would not be who I am today.

## ACKNOWLEDGMENTS

I would like to express the deepest appreciation to my committee chair Dr. Jill Stefaniak, who has graciously and patiently encouraged my evolution into researcher and author. I join the many voices of gratitude and appreciation for your professionalism, talent, and energy. Thank you to my other committee members, Dr. John Baaki and Dr. Angela Eckhoff, for your support and guidance in completing this significant milestone in my academic journey. My appreciation is also extended to those who generously gave their time as participants in this project, and shared their words of wisdom and support, as the light was beginning to dimly shine from the end of the tunnel.

A sincere thank you to the multitude of learners that have provided, and will continue to provide, the opportunity and privilege for my continued professional growth and contributions as an educator, researcher, and consultant in the instructional design field.

I started this journey, by the grace of God, with a friend who simply planted the seed – “Why not?”, thank you, Dr. Larry Frazier. Yvette and Yvonne Travers, my prayer partners, thank you for always answering the phone when I needed you, and being obedient to His direction.

## Table of Contents

<b>LIST OF TABLES .....</b>	<b>vi</b>
<b>CHAPTER 1 .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
Literature Review.....	3
Purpose of the Study.....	21
Summary .....	23
<b>CHAPTER 2 .....</b>	<b>24</b>
<b>METHODOLOGY.....</b>	<b>24</b>
Research Design.....	24
Instruments .....	29
Data Collection Procedures .....	31
Data Analysis .....	33
<b>RESULTS .....</b>	<b>34</b>
Participants .....	34
Limitations.....	64
<b>CHAPTER 4 .....</b>	<b>66</b>
<b>DISCUSSION.....</b>	<b>66</b>
Conclusion .....	70
Future Research .....	71
<b>REFERENCES .....</b>	<b>73</b>
<b>APPENDICES .....</b>	<b>81</b>
APPENDIX A: INVITATION E-MAIL .....	81
APPENDIX B: OLD DOMINION UNIVERSITY INFORMATION SHEET .....	82
APPENDIX C: CURRICULUM MAP .....	84
APPENDIX D: INTERVIEW PROTOCOL (POST GRADUATE) .....	85
APPENDIX E: INTERVIEW PROTOCOL (FACULTY) .....	87
<b>VITA .....</b>	<b>89</b>

## LIST OF TABLES

Table	Page
1. International Board of Standards for Training and Performance Improvement Competencies .....	7
2. Association of Educational Communications and Technology Standards.....	7
3. Questionnaire Guide .....	30
4. Number of Participant Universities by U.S. Region and Carnegie Classification.....	37
5. Courses Identified to Best Prepare ID Students as Professionals .....	39
6. Competencies Instructional Designers Should Possess .....	41
7. Comparison of Student and Faculty Reporting of Instructional Experiences that Prepare Students to Evaluate .....	49
8. Core Courses Including Formative and Summative Evaluation.....	50
9. Perceived Expectations of Employers Concerning ID Students Preparation for Evaluation .....	60
10. Recommended Modification to ID Program Curricula .....	61
11. Comparison of Student and Faculty Perceptions of ID Graduates Preparedness for First Job .....	66



## CHAPTER 1

### INTRODUCTION

Programs that prepare instructional designers as practitioners are challenged to integrate the content, culture, and value systems of various work environments into the formal training setting (Larson & Lockee, 2009). Seventy percent of instructional design professionals hold a degree in Instructional Technology or Educational Technology, 9% hold a degree in Instructional Systems, and 43% of these professionals, work in higher education, with 27% working in business and industry (Larson, 2004). Over 40% of instructional design students, attending a generalist rather than work environment specific instructional design program, reported being unprepared for their first instructional design job (Larson, 2004). Research suggests that a significant factor in preparing instructional design professionals, to design and develop superior instruction, is the recurrent evaluation of instructional design processes, by faculty of Instructional Design and Technology programs. When successfully training instructional design students to meet employer expectations the importance of faculty recognition of the connection between, technological advances, and instructional design processes, was noted (Sugar, 2014a).

The ability to implement an evaluation plan is identified as an essential skill for instructional designers (Koszalka, Russ-Eft, & Reiser, 2013). The fourth edition of *Instructional Designer Competencies: The Standards* (2013) reported the recognition of evaluation, for the first time, as integral to instructional design work, even though evaluation was included as a competency in previous editions. Current attention to evaluation is in response to the heightened expectation that organizational interventions demonstrate return on investment (Koszalka, et al., 2013).

Studies have identified discrepancies between the skills and competencies required by employers, and those mastered by recent graduates of instructional design programs (Larson & Lockee, 2009; Sugar, 2014a). Research also indicates that employers report entry-level instructional designers as deficient in the skills required, to conduct summative evaluations, create evaluation plans, and conduct pilot tests after the design and development of instruction (Villachica, Marker, & Taylor, 2010).

In a qualitative study of the routine evaluation practices of instructional designers, Williams, South, Yanchar, Wilson, and Allen (2011) found that instructional design professionals embed evaluation into practice to inform instruction content revisions, however, they fail to integrate more formal evaluation into practice. The authors surmised that evaluation is often considered insignificant, or is absent, in instructional design work. Although design models incorporate evaluation, Wedman and Tessmer (1993) stressed that no explicit standards for program evaluations or other evaluation tools exist. The lack of literature delineating evaluation practice in instructional design continues to support this conclusion. The less developed analysis and evaluation stages of design models which more readily focus on design and development, validate this perception as well (Armstrong, 2004; Richey & Klein, 2005).

The purpose of evaluation in training and educational settings is to determine whether the instructional objectives and student learning outcomes have been achieved. The process of evaluation examines the value of the instruction and provides data for decision-making (Rossett & Sheldon, 2001). The ability to implement formative and summative evaluation plans is considered a novice level skill. Although creating an evaluation plan, writing, and disseminating reports, are identified as advanced level skills, novice instructional designers are expected to understand the importance of evaluation to the design process (Koszalka, et al., 2013).

## **Literature Review**

### **Competencies Expected by Employers**

Discrepancies have been identified between the skills and competencies required by employers, and those mastered by recent graduates of instructional design programs, and entry-level instructional designers (Larson & Lockee, 2009; Sugar, 2014a; Sugar, 2014b). Research has indicated that instructional designers are not prepared to conduct instruction evaluation upon graduation from instructional design programs. The lack of context and authenticity concerning, content, culture, and workplace values, in educational programs for IDT graduates, has impacted their capacity for complex problem-solving in work settings (Larson, 2004).

In an analysis of a convenience sample of 185 IDs, (61% response rate) who were members of the International Society of Performance Improvement (ISPI) and potential employers or colleagues of entry-level IDs, more than 50% of respondents reported entry-level IDs did not possess the appropriate skills. This study also found that entry-level IDs could not perform 22 common ID activities, based on 15 representative ID models, without significant assistance (Villachica, et al., 2010). The IDs that were assessed had been employed for 1.5 years of paid experience. Respondents indicated that 1/3 of entry-level IDs performed to expectations, writing performance objectives, sequencing objectives, and pilot testing of materials, with minimal assistance. The analysis, design, and formative evaluation phases were the areas in which entry-level IDs could not perform, even with assistance. The authors found that instructional designers do not follow ID models or processes as suggested, but tailored ID activities to meet organizational goals. They surmised that the respondents considered, IDs hired for their first jobs, to be unprepared to perform to expectation, and required training in the workplace (Villachica, et al., 2010).

The findings of the Villachica et al. (2010) study contradicted the results of Larson (2004), who found that ID graduates of academic programs rated their level of job readiness as “somewhat” to “fully prepared”. The IDs in the Larson study self-reported their responses.

It was recommended that University degree and work setting specific ID training programs, reevaluate their curriculum to increase the focus on ID activities that more readily transfer to the workplace. This option takes into consideration the cost to employers to train new hires, and better prepares graduates to meet employer expectations (Villachica et al., 2010).

In 2004, Larson conducted the Instructional Design Career Environments Survey. The survey was issued online and through postal delivery, to collect data on current work environments, responsibilities of practitioners, relevant academic preparation activities, and whether this preparation aligned with workplace demands (Larson, 2004). Members of the Association for Educational Communications and Technology (AECT) received the mailed version of the survey, and members of AECT, the International Society for Performance Improvement (ISPI), and the American Society for Training and Development (ASTD) received the online version. The 148 respondents were divided into two groups, 1994-2003 graduates and pre-1994 graduates. The research findings indicated that over 60% of IDT students had no prior experience with instructional design before enrolling in programs. Participants perceived that contextualizing the student preparation experience was successful. Students receiving generalist training were more satisfied with their academic experience and felt more effectively prepared for general instructional design practice. Those with specific work environment training felt more effectively prepared for ID work in their industries of choice. However, 25% of respondents were concerned that they were ill prepared for the cultural aspects of work settings. The researcher also noted that comparing the effectiveness of ID programs was a challenge

because of the variability in coursework experiences of students completing IDT degrees. The researcher recommended focusing on the cultural aspects of work environments, allowing flexibility in course offerings, and surveying of program graduates for feedback (Larson, 2004).

Instructional designers are employed in various work environments, K-12, higher education, business and industry, government and military, private consultancy, informal or formal, practice throughout the world, and design instruction for, face-to-face, paper-based, digital, and blended learning (Koszalka, et al., 2013). A case study method was used for an in-depth examination of the general instructional design preparation and competencies required in various work environments (Larson & Lockee, 2009). Demographic information, general design preparation, workplace culture and participant perception of preparation for cultural issues, and ratings of IDT programs, were collected by survey.

The study sought to identify how and how well instructional design and technology programs were preparing graduates for employment in different work settings. A university acknowledged for its' effectiveness in training IDs was selected for the study. Seventeen faculty, five alumni employed in business and industry, two current students, and a student focus group of 11 subjects, were interviewed. The focus group questions and experiences were compared to the results of the 2004 Instructional Design Career Environments Survey (Larson, 2004).

Six approaches were identified for effectively preparing ID students as professionals: a) pragmatic, b) systematic, systemic, and empirical, c) emphasis on change agency, d) self-evaluative, for continuous improvement, e) incorporation of authentic, relevant, real-world experiences and f) collaborative mentoring opportunities for faculty and students. The researchers suggested that other IDT programs could successfully implement the approaches of the university, by exercising flexibility in the customization of course work, incorporating

contextualized experiences, encouraging continuous self-evaluation and improvement by students, and integrating feedback in curriculum revisions, from continual outreach to alumni, employers, and practitioners in various work settings (Larson & Lockee, 2009).

Employers expect entry-level instructional designers to possess specific job-related competencies that meet workplace demands. Instructional design programs that neglect to provide context and authenticity through learning activities, fail to prepare instructional design students for complex problem-solving events in various work settings.

### **Competencies Expected by the Instructional Design Field**

Instructional designers work under many job titles: administrator, course developer, curriculum developer, eLearning specialist/designer, human performance technologist, instructional designer, instructional technologist, specialist/consultant/ coordinator, trainer (Sugar, Hoard, Brown, & Daniels, 2012; Sugar & Luterbach, 2016). The generic enveloping of the term instructional designer has led to misperceptions concerning the skills, behaviors, competencies, and outputs expected of the ID professional (Koszalka et al., 2013).

Instructional design is a systematic process that is employed to develop education and training programs in a consistent and reliable fashion from the perspective of the learner (Reiser & Dempsey, 2007; Morrison, Ross, Kalman & Kemp, 2011). The work of an instructional designer is to “create something that enables a person or group of people to learn about a particular topic, develop, or improve a set of skills, or encourage the learner to conduct a further study” (Brown & Green, 2006, p. 7).

The authors of the current iteration of the International Board of Standards for Training and Performance Improvement (IBSTPI) Instructional Design Competencies described ID as a defined field with specific concentration boundaries and emphasis. Professional competencies

provide a vehicle, for students, higher education, and employers, to articulate and demonstrate the relevance, applicability, and value of specific skill acquisition and credentials (Everhart, Bushway, & Schejbal, 2016). Competencies support the development of job descriptions, and identification of the benefits of ID expertise (Richey, Fields, & Foxon, 2001, p. 17).

The International Board of Standards for Training and Performance Improvement (IBSTPI), in their latest edition of instructional design standards (see Table 1) identify the ID competencies as a core set of expectations that capture the perception of ID practitioners for the profession, worldwide (Koszalka et al., 2013). There are 22 IBSTPI instructional design competencies clustered in five domains supported by 105 performance statements (Koszalka et al., 2013). The Association for Educational Communications and Technology (AECT) developed initial and advanced program standards for preparing IDT professionals. The AECT standards accompany the National Council for Accreditation of Teacher Education (NCATE) requirements for academic programs (Bowman, Armstrong, Lane, & Lane, 2015) (see Table 2).

Graduate students enrolled in a capstone course at a large mid-Atlantic university were the participants in a study to measure their level of proficiency in the AECT or IBSTPI competencies (Dabbagh & English, 2015). A convenience sample of 34 students participated in the research to explore the incorporation of the AECT and IBSTPI standards in the curriculum of a graduate ID program. The graduate program was designed to prepare professionals to construct quality instructional design products, in various work settings, by integrating practice and theory. The instructional design students were also full-time ID employees working in various industries. The students chose either the AECT or IBSTPI standards to measure their ability. The study findings were the result of student self-reported ratings of proficiency in the competencies established by AECT or IBSTPI (Dabbagh & English, 2015).

The ID students reported the highest proficiency and confidence in the AECT design and development competencies, the IBSTPI professional foundation standards, and IBSTPI design and development competencies (Dabbagh & English, 2015). Students reported feeling the least proficient in the AECT utilization standard and IBSTPI Management competency standard. Students identified courses that contributed to their proficiency in these standards, and those they believed could be more effective. The faculty of the university revised and added courses to the curriculum based on the feedback from the study. Although student reporting of proficiency in the evaluation standard was among the lowest, neither a course on formal nor informal evaluation interventions was integrated into the curriculum changes (Dabbagh & English, 2015).

In a year-long study of the instructional design activities of one instructional designer who collaborated with 57 clients, Sugar and Moore (2015) outlined the activities supporting the seven roles that the designer played. These roles included: instructional architect, instructional engineer, instructional craftsperson, instructional artist, and designer as artist, designer as counselor, instructional manufacturer, and trainer (Sugar & Betrus, 2002). Although the authors acknowledged that they could not generalize from the small study sample, they questioned whether instructional designers were being prepared through ID programs to effectively serve in these roles (Sugar & Moore, 2015). In another study, Sugar (2014a) purported that instructional designers must possess both instructional design and multimedia production skill sets and demonstrate the ability to apply the multimedia production skills to bring a project to completion, successfully.

An analysis of instructional design job postings illustrated a greater demand for proficiency in ID activities and skills in the corporate sector when compared to the activities and skills required in higher education ID positions. Evaluation expertise was mandated for 61% of



the corporate jobs in instructional design. Corporate employers (62%) required skills in developing and administering needs assessments, in comparison to 43% of employers in higher education and 33% in combination jobs (Sugar, et al., 2012; Sugar & Luterbach, 2016).

Table 1

IBSTPI Competency Areas (Koszalka, et al., 2013)

IBSTPI Competency Areas	
	Level of Expertise
<i>Professional Foundations</i>	
1. Communicate effectively in visual, oral and written form.	Essential
2. Apply research and theory to the discipline of instructional design.	Advanced
3. Update and improve knowledge, skills, and attitudes pertaining to the instructional design process and related fields.	Essential
4. Apply data collection and analysis skills in instructional design projects.	Advanced
5. Identify and respond to ethical, legal, and political implications of design in the workplace.	Essential
<i>Planning &amp; Analysis</i>	
6. Conduct a needs assessment in order to recommend appropriate design solutions and strategies.	Advanced
7. Identify and describe the target population and environmental characteristics.	
8. Select and use analysis techniques for determining instructional content.	Essential
9. Analyze the characteristics of existing and emerging technologies and their potential use.	Essential
<i>Evaluation and Implementation</i>	
17. Evaluate instructional and non-instructional interventions.	Essential
18. Revise instructional and non-instructional solutions based on data.	Essential
19. Implement, disseminate, and diffuse instructional and non-instructional interventions.	Advanced
<i>Management</i>	
20. Apply business skills to manage the instructional design function.	Managerial
21. Manage partnerships and collaborative relationships.	Managerial
22. Plan and manage instructional design projects.	Advanced

Researchers have indicated that competencies and standards are increasingly used in higher education to influence the evaluation of programs and curriculum when assessing student performance and capabilities (Spector, et al., 2006). Enhancements in instruction, learning, and quality control are seen as benefits to this approach (Dabbagh & Blijd, 2010; The Carnegie Classifications, 2018).

Table 2

*AECT Competencies (AECT, 2012)*

AECT Competencies	Standard 1 Content Knowledge	Standard 2 Content Pedagogy	Standard 3 Learning Environments	Standard 4 Professional Knowledge & Skills	Standard 5 Research
Creating	X	X	X		
Using	X	X	X		
Assessing/ Evaluating	X	X	X		X
Managing	X	X	X	X	
Ethics	X	X	X	X	X
Diversity of Learners			X		
Collaborative Practice				X	
Leadership				X	
Reflection on Practice				X	
Theoretical Foundations					X
Method					X

Advocates of the competency movement conceive the approach as ensuring students'

apposite preparation for a competitive work environment (Pool, 2001). Critics of a competency-based system posit this influence from behaviorism as appropriate for training rather than an educational system, focused on knowledge and understanding (Bowden & Masters, 1993).

Competency-based instructional design programs could require demonstration of mastery of AECT or IBSTPI standards before student graduation. Learning outcomes, based on objectives and assessments, that are meaningful, measurable, and standardized could promote consistency in academic programs and expectations for the instructional design field.

### **Instructional Design Students Ill-Prepared for the Workplace**

Maintaining relevant competencies to assure graduates and entry-level professionals are prepared to evaluate and design quality instruction is a challenge for the instructional design field and ID educational programs. This is especially challenging given that some ID job qualifications change as frequently as new educational technology is introduced (Sugar, et al., 2012).

A comprehensive analysis of 102 instructional design practice studies involving instructional design novices, students, professionals, and experts was conducted by Sugar (2014b). The purpose of the review was to expound on and synthesize the findings of earlier studies of instructional design practices. The meta-analysis included research related to instructional designers with varying degrees of ID work experience, who were in the process of attaining, or had graduated with, ID degrees. The study excluded research with subjects having ID responsibilities, who were not formally trained in ID principles. The goal of the study was to synthesize the available research in an effort to inform the field and ID practice. Education Research Complete and ERIC databases were searched initially using keywords, leading to 696 identified studies. Additional citations from the identified articles and a manual search covering

2002-2013, of several peer-reviewed journals, were used to access an extensive list of resources. The inclusion parameters for the study narrowed the number of articles to 102. The guiding questions sought to determine: 1) how each type of ID, student, novice, expert, and professional, design instruction, 2) what competencies must be mastered to design effective instruction, and 3) how to best teach the competencies critical to effectively designing instruction.

The analysis of ID studies examining professional instructional designer practices revealed common practices in writing objectives, selecting instructional strategies, developing test items, and selecting media formats (Sugar, 2014a; Sugar, 2014b). The analysis showed mixed results or no consensus, among ID practitioners in reference to evaluation activities, such as pilot testing. ID models were not represented in ID practice, rather instructional design events were supported by learning theories and context. ID competencies were a common thread.

Real-world projects, the peer review process, case studies, and instructional supports were determined as the most effective teaching methods in response to the question of how to best teach critical ID competencies. Although models were considered supportive in teaching design skills and provided a springboard for instructional design work, the review failed to suggest a standard instructional systems design model used by practitioners (Sugar, 2014b). The study reported that no decisive view of ID practice could be ascertained from the research; however, a significant difference between expert and novice instructional designers was disclosed. ID experts approached design projects from a systemic view that allowed for faster problem-solving and more efficient use of time.

Sugar (2014b) offered nine recommendations to consider for future research and the education of instructional design professionals:

- Replicate common studies of ID practices completed in the 1990s

- Consolidate data collection measures
- Conduct studies of ID practices that are all-inclusive
- Complete longitudinal studies
- Establish interrelated ID competencies
- Understand ID relationships and roles
- Provide support for developing ID expertise
- Explore interrelationships between ID decision-making and ID best practices
- Consider innovative methods to collect and represent ID development and ID practices.

In accordance with Sugar's recommendations, ongoing research concerning the difference in approach to design, by experts and novices, could continue to support the selection of appropriate competencies for educating and preparing design students to meet employer expectations.

### **Instructional Designers Prepared for the Workplace**

Learners have reported that the instructional design process, when performed for a client, is critically different than the ID process presented within the context of a classroom (Woolf & Quinn, 2007). Clark (1978) insisted that educational technology (ET) doctoral students, whether researchers or practitioners, required the same knowledge base in inquiry skills and problem-solving. The author suggested that both researchers and educational practitioners should be prepared, through their graduate program activities, to continually inquire into the problems, conditions, and consequences of actions for educational technology practice. The development of inquiry skills was considered, the "integrating thread", critical for both occupations to comprehensively attack the problems faced by educators in different areas. An inquiry focused

graduate program was recommended as a vehicle to address this mandate (Clark, 1978). The author proposed that graduate programs provide systematic, auditable, generalizable, and comprehensive knowledge about the process of propagating information and materials.

The implications of this approach to ET graduate programs would be training students in the widest possible range of inquiry skills and discipline methodologies. Students would be provided a variety of opportunities, to engage in inquiry experiences, and to gain exposure to faculty working in different facets of the profession (Clark, 1978).

### **Ill-Structured Problem-Solving**

Professional instructional design education programs that teach students practical knowledge for ill-structured and complex problems presented in the workplace, as well as, technical knowledge and skills, was addressed through ID programs offering situated learning experiences (Woolf & Quinn, 2007). The perceived value to ID graduate students of designing instruction for a corporate client as a project for two ID courses was examined by Woolf and Quinn (2007). The participants in the study were Masters' level graduate students enrolled in a large Midwestern university. The participants collaborated in teams and were immersed in the role of ID consultant. Open-ended interviews were conducted of the student and client participants for the inductive analysis. The study found that learners perceived value in situated learning experiences when allowed to choose personally meaningful instructional topics, and to experience an eclectic problem-solving approach within a group. The research also found that learners ascribed value differently to various ID activities (Woolf & Quinn, 2007).

The knowledge and skills essential to the ill-structured problem-solving instructional design process are determined by environment, circumstances, and resources (Dabbagh & Blijd, 2010). The field of instructional design is tasked with mounting problem-solving responsibility

(Jonassen & Hernandez-Serrano, 2002). Students without the opportunity for authentic experience may lack the depth of knowledge necessary for competent practice. Didactic models that encourage student understanding of expert instructional design practice through authentic experience, and foster a collaborative perspective to problem-solving, strengthen the preparation of ID students for various work experiences. ID students would be better served through immersion in problem-solving learning than focusing on a systems model approach (Dabbagh & Blijd, 2010).

An exploration of ID students' perceptions of their learning experiences when presented with an ill-structured, authentic problem, to be solved within a performance team, was conducted. The participants were eleven students enrolled in a full-time instructional design graduate program, which utilized a constructivist pedagogical approach (Dabbagh & Blijd, 2010). The participants overcame initial feelings of anxiety and confusion, concerning the ill-structured problem and constructivist approach, when the benefit of bridging theory and practice was recognized. The students reported experiencing team-based learning with the ill-structured problem as an opportunity to improve skills and reflect on real-world challenges (Dabbagh & Blijd, 2010).

### **Project-Based Learning**

The First Principles of Instruction, Merrill's experiential model, identified the observation of a demonstrated generalizable skill, application of new knowledge, engagement in a task-centered activity, activation of prior knowledge, and integration of new knowledge in real-world scenarios as instructional design principles that promote learning through experience (Merrill, 2009, p. 43-44). A similar model of experiential learning was put forth by Lindsey and Berger (2009, p. 124):

*Framing the experience* —Experiential learning begins as one communicates the instructional objectives, assessment criteria, and social structure (relationship with peers, instructors, and the environment beyond the class) of the learning experience and expected participant behaviors.

*Activating experience* —Learners engage in learning experiences that: (a) are authentic to the practice environment (b) allow for decision-making with authentic outcomes, (c) are problem-oriented, and (d) challenging for the student.

*Reflecting on experience* —Reflection encourages the integration of new knowledge. The teacher has the role of facilitator in this process. Community building continues from the second phase, and the student answers the questions; “What happened?”, “Why did it happen?”, “What did I learn?”, and “How would I apply this knowledge to future experiences?”

Project-based learning provides the opportunity to gain respect for multiple perspectives, and various cultures, as a strategy for authentic ID experience (Slagter van Tryon, McDonald, & Hirumi, 2018). The integration of ID theory and application in fast-paced work environments allow graduates to feel more assured of their ability to address the challenges of a professional setting (Hirumi, et al., 2017).

Project-based learning was also found to be effective when tasks were collaborative, achievable, and options for solutions were provided (Johari & Bradshaw, 2008). A six-semester study, of 18 instructional technology (IT) interns enrolled in two university undergraduate capstone courses, was conducted to examine the influence of motivation on the relationship of the task, learner, and mentor, to student success. The students were required to design and develop internship and capstone IT projects for local corporations. The participants worked as



interns within project teams, 20 hours a week. The purpose of the program was to prepare IT students for IT jobs in local corporations. The researchers found competence, relationship, and autonomy as critical factors in the success of an IT internship program. Peer discussion groups and mentor relationships provided encouragement, motivation, and additional sources of problem-solving expertise (Johari & Bradshaw, 2008).

In a study to develop a model for cross-institutional collaboration of ID instructors, the introductory course design of each participant included project-based learning (Slagter van Tryon, et al., 2018). The application of systematic design, engagement with clients and SMEs, and the creation of a client approved ID product, were mandatory and deemed essential to ID skill acquisition ((Slagter van Tryon, et al., 2018). The immersion in a real-world ID project supported the development of critical ID skills while allowing the honing of soft skills, such as communication, collaboration, problem-solving and decision-making (Hirumi et al., 2017).

### **Case Study Method**

The case-based method (CBM), also considered a problem-centered instructional strategy, exposes learners to authentic professional circumstances (Ertmer, Quinn, & Glazewski, 2014). ID graduates have been shown to attain domain knowledge yet lack the skill to apply this knowledge to real-world problem solving (Ertmer, York, & Gedik, 2009). CBM is used to promote the critical thinking skills of learners through the presentation of complex and ill-structured problem solving (Choi & Lee, 2009). In one study an online case-based learning environment for classroom management problem solving (CBL-CMPL) was designed, based on Jonassen's constructivist learning environment model, to focus on the process of ill-structured problem solving (1997). The case-based method was effective in promoting ill-structured

problem solving for teacher education students and proved to effectively support the transfer of learning (Choi & Lee, 2009).

A recent study sought to validate a set of CBM design assumptions, explore the advantages and limitations of CBM, and to identify potential areas for improvement in the online environment (Luo, Koszalka, Arnone, & Choi, 2018). The research found that in the online environment, the utilization of the case-based method, created a general positive learning effect, increased learner engagement, improved comprehension of exemplary practice, and encouraged reflection (Luo, et al., 2018). This study also empirically verified 12 design assumptions, supported by the CBM theory.

Student awareness of the ID process has been shown to be enriched by the case study approach and corresponding analysis (Bennett, 2010). The case study method facilitates learning of a specific topic, and transfer to an appropriate setting (Fitzgerald, et al., 2011). When case studies were used to engage ID students in authentic design problems, in the role of practitioner, the efficacy of case studies was clearly demonstrated (Ertmer & Russell, 1995).

Research conducted to encourage the adoption of the case study teaching methodology, in Instructional Design and Technology graduate programs, found the method provided students the opportunity to build situational knowledge, and to develop “practice wisdom” (Sugar, et al., 2012; Sugar & Luterbach, 2016). The study used three case study composites developed from survey responses of professional instructional designers. The case studies focused on the job responsibilities of the ID, that demonstrated the use of, and need for, multimedia production skills, as well as instructional design skills.

The learning objective addressed by the case study was the integration of multimedia production skills and instructional design theory and practice. The author suggested the use of

case studies as the instructional strategy to promote the application of, and experience with, both skill sets. The case presented a real-world scenario, without analysis or solution. The task of the student was to apply existing knowledge, discover new knowledge through research, and develop a systematic process for problem resolution. A constant comparative technique was used to identify emergent themes through the analysis of the respondent's statements. A formative evaluation was conducted of the case studies. Forty-seven, instructional design, and technology graduate students reviewed the case studies for effectiveness in promoting student understanding of the intersection between multimedia production and instructional design activities.

The results of the formative evaluation session were consistent with the positive findings for the use of the case study teaching methodology. The majority, of the student participants, found the case studies beneficial in synthesizing course content, increasing their real-world problem-solving ability, and encouraging reflection upon the integration of skills related to instructional design activities (Sugar et al., 2012).

### **Instructional Designers Prepared to Evaluate**

The ability to implement formative and summative evaluation plans is considered an essential instructional design competency (Koszalka et al., 2013). Employers expect instructional designers to be skilled in instruction evaluation (Sugar, 2014b). The purpose of evaluation in training and educational settings is to determine whether the instructional objectives and student learning outcomes have been achieved, to determine the value of the instruction, and provide data for decision-making (Rossett & Sheldon, 2001). While creating an evaluation plan and writing and disseminating reports are identified as advanced level skills, novice instructional designers are expected to understand the importance of evaluation to the design process (Koszalka et al., 2013).

A qualitative study of the routine evaluation practices of instructional designers found that instructional design professionals embed evaluation into practice to inform instruction content revisions, however, they fail to integrate more formal evaluation into practice (Williams, et al., 2011). The key themes that were reported from the data were: designers evaluate informally, formal evaluation is cost prohibitive, designers evaluate the formal instructional design training versus the practical instructional design process, technology use involves evaluation, designers evaluate student learning, designers constantly think of how to improve the learner experience, designers participate in self and team evaluation, designers evaluate the effectiveness and application of design theory when making design decisions, and designers evaluate stakeholders' needs, priorities, and criteria. Although ID professionals acknowledged the importance of conducting formal evaluations, there was a gap between that recognition, and participation in a formal evaluation process (Williams et al., 2011).

### **Instructional Strategies that Work**

The most effective instructional strategies for teaching novice instructional designers to implement formative evaluation was explored by Chen, Moore, and Vo (2012). The study measured the factors that influenced the understanding of the formative evaluation process. Twenty students were trained in evaluation with the use of an online flash development course. Although improvements in understanding were gained, the authors were challenged to effectively teach formative evaluation within a 15-week semester because the time allotted for the instruction of formative evaluation was impacted by other variables.

Instructional strategies for the course included peer review of students' units, storyboards, the final project, a heuristic checklist for evaluating the final project, and usability sessions with the students. The students designed and developed their projects based on two case

studies. The second case study incorporated the feedback (formative evaluation) received from students, concerning the effectiveness of the course design, after working with the first.

Participants demonstrated the ability to summarize project problems, prioritize, and implement the necessary improvements to the design project. Students found the peer review process for their design projects and usability sessions to be helpful and supportive of learning instructional design best practices. Thirteen students reported that they would conduct usability evaluations on their future design products, and seven students suggested they would conduct more than one round of evaluation for feedback on instructional design materials (Chen et al., 2012).

Wedman and Tessmer (1993) stressed that although design models incorporate evaluation procedures, no explicit standards for program evaluations or other evaluation tools exist. The lack of literature delineating evaluation practice in instructional design, and the less developed analysis and evaluation stages of design models, continue to support this conclusion (Armstrong, 2004; Richey & Klein, 2005). Experiential learning, such as project-based activities, contribute to student retention and understanding of course materials and has been effective in educating novice instructional designers in formative evaluation (Weinberg & Stephen, 2002).

### **Purpose of the Study**

IBSTPI considers the ability to implement formative and summative evaluation plans as a novice level or essential ID competency (Koszalka et al., 2013). Employers have indicated the expectation that newly hired instructional designers be skilled in instruction evaluation (Larson & Lockee, 2009; Villachica et al., 2010). Despite these expectations, instructional designers have been found to possess limited experience conducting formative and summative evaluation, after completion of graduate level ID programs.

Entry level instructional design practitioners are not demonstrating the expected mastery of ID competencies in the workplace. Although two highly respected member associations, IBSTPI and AECT, provide publications of detailed standards for practice, there is inconsistency in the required mastery of competencies for instructional design graduates. There is also a paucity of literature establishing the effectiveness of instruction through consistent formal evaluation (Williams et al., 2011).

The purpose of this study was to examine the professional preparation for evaluative planning and practice received by instructional designers through graduate level programs. Although 78% of postgraduates reported being prepared for their first professional ID jobs, and 82% of faculty members professed that students were prepared upon graduation, previous studies would question the accuracy of this perception. Discrepancies have been identified between the skills and competencies required by employers of instructional design professionals, and those mastered by recent graduates of instructional design (ID) programs (Klein & Kelly, 2018; Larson & Lockee, 2004; Sugar, 2014b; Williams et al., 2011).

### **Research Questions**

The following research questions guided this study:

1. What are the common core courses offered by graduate programs in Instructional Design in the United States?
2. How do the curricula of Instructional Design graduate programs in the United States, ensure instructional designers are prepared to conduct formative and summative evaluations?
3. What are the most effective instructional strategies, utilized by Instructional Design graduate programs in the United States, to prepare graduate students to evaluate the

instructional materials they design and develop?

### **Summary**

Failure to prioritize mastery of the skill of evaluation may have resulted in the lack of empirical data verifying the effectiveness of a standard evaluation model for the industry. This study explored the instructional approach, of instructional design graduate programs, when preparing ID students to evaluate ID products or programs. The research provided a more in-depth understanding of the unconscious attitudes potentially conveyed to instructional designers about the importance of evaluation. The analysis of the data illuminated the limited significance bestowed on formative and summative evaluation, as critical and relevant elements of the instructional design and development process. In chapter 2, the research design, data collection, and data analysis components of the study will be summarized.

## **CHAPTER 2**

### **METHODOLOGY**

The purpose of this qualitative study was to explore how instructional designers are prepared to conduct formative and summative evaluation in organizations. The course offerings of graduate programs in the U.S. were examined to complete a curricular map of the number of courses either dedicated to or incorporating evaluation instruction.

#### **Research Design**

The qualitative method yields rich data, allowing the convolutions of a specific phenomenon to be examined (Leedy & Ormrod, 2013, p. 95). “Qualitative research is the study of a phenomenon or research topic in context” (Hays & Singh, 2012, p. 4). A quantitative content analysis was used for mapping the courses offered by graduate degree instructional design programs. Content analysis enables significant amounts of data to be considered and clarified more easily (Harwood & Garry, 2003). This type of analysis may be useful in determining a pattern or focus of institutional attention (Stemler, 2001). Curricular mapping the course offerings of the respondent graduate programs, provided insight into both the consistencies and disparities of the instructional approaches of instructional design programs in the United States. Interviewing the faculty members and postgraduates of these programs afforded an understanding of the attempt to develop an educational experience that met the needs of both students and employers. Both face-to-face and online programs were included in the study.

Faculty members and postgraduates of the respondent instructional design programs were interviewed to determine the extent to which evaluation is emphasized in the core curriculum, and which programs more successfully prepared instructional designers to evaluate instructional



products. Curricular maps for these programs identified which courses were expected to stress formative and summative evaluation.

Semi-structured phone interviews were conducted with faculty and postgraduates of instructional design Masters' and Ph.D. degree programs. The semi-structured interviews provided the opportunity for rich, detailed descriptions of participant experiences. The flexibility of this type of interview process presented each participant with the chance to describe their experiences from their unique perspective (Hays & Singh, 2012, p. 239). Participant interviews were conducted by phone, because of the various geographic locations of the subjects. The questionnaire was composed of open-ended questions, with the exception of demographic questions.

### **Participants**

A purposive, homogeneous sampling technique was used to recruit instructional design (ID) programs, faculty, and recent graduates for the study. Inclusion in the study was limited to graduate level instructional design programs located in the United States, current faculty members of respondent ID programs, and instructional designers having graduated within two years of the study, from the respondent universities. The graduates were required to be employed as instructional design professionals and to have completed at least one full design project cycle. An agreement by faculty participants to complete the curriculum mapping survey was inherent in study participation.

The study invitation emails were forwarded to 53 universities that offered traditional and online Instructional Design programs throughout the United States. The data collected for this study was the result of curriculum mapping 16 Masters and Ph.D. instructional design programs and conducting 29 semi-structured interviews with faculty and postgraduates of these programs.

The study was designed to compare the curriculum map data with faculty and graduate responses concerning the number of courses offered, and the emphasis placed on evaluation. The completion of the curriculum maps was requested of the faculty interviewees.

Three universities did not have graduate representation, and five did not complete the curriculum map with evaluation instruction data. Two of the three universities without post graduate representation were among those without a completed curriculum map. Faculty and graduate representatives were interviewed for two of the other universities without a completed map.

Sixteen (30%) of the 53 universities contacted, agreed to participate in the study. Eleven faculty members of the 16 universities returned a completed curriculum map indicating which courses in the program curriculum, included instruction on formative and summative evaluation.

Several initial respondents identified the time required for completion of the curriculum map as an obstacle to participation. A second email invitation, with the offer of completion of the curriculum maps by the researcher was forwarded. The researcher added the course titles and descriptions to the map based on published course offerings. The curriculum maps were forwarded to faculty members with a request to place an “x” in the appropriate box on the map to indicate inclusion of formative or summative evaluation. The response to this approach was favorable, however, five of the faculty members that were interviewed did not return a completed curriculum map. Nine faculty members identified the courses that included evaluation in the curriculum and modified the program course list if the researcher omitted any courses from the map. Two of the faculty members completed the curriculum map after receiving the initial invitation request.

The faculty members who were interviewed represented 16 universities dispersed across the United States. The study comprised Instructional Design and Educational Technology programs of the following U.S. regions: three programs in the West, three programs in the Midwest, two programs in the Southwest, seven programs in the Southeast, and one in the Northeast. This sample also incorporated universities at each level of the Carnegie Classifications (2018).

The study was designed to explore whether faculty and graduates agreed on the preparedness of students to evaluate their design products and programs, as a result of the course offerings of Instructional Design Masters and Ph.D. degree programs. Fourteen of the faculty members introduced the researcher, via email, to one or as many as three, postgraduates from their Masters' degree or Ph.D. programs, to be interviewed for the study. When there were multiple postgraduate candidates recommended to represent a program, the researcher selected the first postgraduate to respond to the email invitation. Although a faculty member was interviewed, two of the programs did not respond to queries for an introduction to a postgraduate representative. The postgraduate of the third program did not respond to the invitation to participate in the study. No other names were offered in response to subsequent requests by the researcher.

The thirteen postgraduate participants held degrees and job positions with various labels, however, each functioned as an instructional design practitioner: Ph.D. in Instructional Design (2), Instructional Systems Technology (1), Educational Technology (2), Instructional Technology and Development (1), Ph.D. candidate in Curriculum and Instruction (1), Master of Science in Instructional Psychology and Technology (1), Master of Arts in Instructional Systems Technology (1), Information and Learning Technology (1), Organizational Performance and

Workplace Learning (1), Instructional Design and Development (1), and Instructional Design (1).

The sixteen faculty members, each having a Ph.D., represented various degree programs as well, Instructional Technology, Educational Technology, Instructional Design, Education, Educational Research Measurement and Evaluation, Instructional Systems, Instructional Science and Technology, and Instructional Psychology and Technology. Two of the faculty members had no direct instructional design experience, however, they were experts in evaluation.

There were 196 program courses identified on the 16 curriculum maps. Ninety of the courses from the 11 curriculum maps that were completed by faculty, including internship, and capstone courses, were reported as inclusive of instruction of formative and/or summative evaluation of ID products or training programs.

The instructional design graduate programs were identified through three sources, an educational technologist membership resource, the Association for Educational Communications & Technology's (AECT) Curricula Data of Degree Programs in Instructional Design, and two online subscription practitioner sources, the e-Learning Guild, and the e-Learning Industry. After comparing the lists for redundancy, the remaining ID programs that met the study criteria and the email addresses for the program administrators were entered into an excel spreadsheet to create a database. The invitation (Appendix A) to participate in the study was forwarded by email to each program administrator with the study information sheet. The study information sheet included a statement of consent for voluntary and complimentary participation in the study (Appendix B) and the assurance of confidentiality for the participant institutions.

### **Data Sources**

The Association for Educational Communications & Technology's (AECT) Curricular Data of Degree Programs in Instructional Design, is an online self-reported curricular database of degree programs in the educational communications and technology field. Data is submitted by universities around the world. The AECT is a professional association of thousands of educators and other related professions. The AECT has become a leading organization for those promoting a systematic approach to learning and design of instruction (Bowman, et al., 2015).

The AECT database allowed the researcher to sort by study criteria for graduate instructional design programs. The database included program and degree titles, degrees offered, program requirements, lists of faculty members, and contact information for the program. The researcher reviewed each selection to determine whether the university programs were appropriate for the study. This database was also used to identify the program administrators for data collection for the course curriculum mapping.

The eLearning Guild is a member-driven organization. It is reportedly the oldest and most trusted source of information, networking, and community for eLearning professionals. The eLearning Industry is the largest online community of eLearning professionals in the industry. It is a network-based media and publishing company created as a knowledge-sharing platform that promotes the latest trends in learning and technology to support eLearning professionals and instructional designers to connect in a safe online community (Pappas, 2017).

### **Instruments**

The semi-structured interviews with faculty and graduates, averaged about 31 minutes, ranging from 17 minutes to over an hour. The interview protocols for faculty and graduate participants are attached as Appendices D and E. The questionnaire was appropriately modified

for both interview groups. The questionnaire was developed by the researcher and was piloted with two instructional designers. The questionnaire was composed of close-ended questions, to identify years of experience in the ID field, of both faculty and students, degree program, and open-ended questions for qualitative data collection. A curricular map template was forwarded to 53 universities with graduate programs that met the study criteria. The map was completed either by the researcher, based on the course descriptions presented on the university website, then forwarded to the faculty interviewee, for completion, or a faculty representative of the program. The curricular map was designed to list the core, IDT specialization, technology, human performance technology, and research courses, required for each degree program. The map included spaces to indicate which courses included instruction in formative and summative evaluation.

The following table was used to guide the construction of the questionnaire for this study (see Table 3). Leedy and Ormrod (2013, p. 200) suggested researchers complete this table as a guide to ensure that each interview question related to the research problem.

Table 3

*Questionnaire Guide*

Questions	Why are you asking the question? How does it relate to the research problem?
What skills should instructional design (ID) students possess to successfully demonstrate an understanding of ID principles?	Are the expectations for student competence in ID skills, the same for faculty members and students? Do their expectations align with the standards for novice IDs?
Which courses in the ID curriculum of your institution do you expect will best prepare you or students for work in the ID field after graduation?	Does the course curriculum align with the skills that both students and faculty identify as necessary? Are the expectations for student competence in ID skills, aligned with employer expectations?

How important is evaluation in the ID process?	Could the lack of data for ID evaluation be related to lack of priority it is given by the industry?
Which courses in the ID curriculum of your institution have best prepared you or your student to conduct formative and summative evaluation?	What emphasis is placed on evaluation? Which type of evaluation is given predominance?
What instructional method do you think most effectively helps instructional design students connect instructional design theory to a real-world application?	Are the instructional strategies utilized to prepare ID students effective? Do the strategies provide real-world experience?
What percentage of course work for ID students is delivered using this method?	If the identified strategies are effective, are they consistently or optimally utilized by faculty?
Which course activities could be modified, added, or excluded to prepare ID students for the real world of ID?	Are there changes to the course curriculum that faculty and students are aware should be changed to better prepare students?
Do you think your ID students are prepared for their first ID job after graduation? If so, to what do you attribute this, if not, how could they be better prepared?	Do faculty believe that ID students graduate prepared for work and if so what contributes to this?
What expectations do employers have of ID professionals?	Are the expectations for student competence in ID skills, aligned with employer expectations?

### **Data Collection Procedures**

A curricular map was developed for comparison of the core courses offered by ID programs, and the number of courses offering instruction in evaluation. Semi-structured interviews were conducted with instructional designers with current job responsibilities in the ID field. Demographic information was collected to determine the level of experience as an instructional designer, degree, and job responsibilities. Experiential data was collected for an inductive thematic analysis. The data items were reviewed to determine explicit, semantic patterns in the data corpus (Braun & Clarke, 2006). Data extracts were integrated throughout the analysis to support the description and interpretation of the significance of the themes.

The researcher scheduled participant interviews based on interviewee availability. All scheduling and participant questions regarding the study or expectations were conducted through email. The participants received the confirmation email which included the study information sheet and consent to participate (Appendix B), before the interview. Clarification concerning the study was offered before each interview and participants were reminded that the interview was being recorded. The Tape-A-Call smartphone application was used to record each call, with the exception of two interviews. One participant requested that the interviewer take handwritten notes, and the other participant was recorded through a Webex audio-visual subscription.

Five of the initial recordings were uploaded from Sonix.com and transcribed by the researcher. A hired transcription service proved more efficient given the extensiveness of the data corpus. Twenty-four of the interviews were transcribed using Rev.com. The researcher reviewed each transcript and interview recording to ensure accuracy. The transcripts and recordings were then forwarded to each participant by email. A request to acknowledge the accuracy of the responses, and/or to make appropriate corrections, accompanied the transcripts. Interviewees made corrections or approved the transcripts accordingly.

The researcher typed each question from the interview protocol into an excel spreadsheet creating the codebook. The faculty and postgraduate responses were then cut and pasted from the transcriptions to generate the data set to be analyzed. A table was created using Microsoft Word to organize and categorize the interview questions related to each research question. The data items were then read repeatedly, color-coded, and themes generated. The data was shared and reviewed by another researcher to ensure inter-rater reliability. After codes were sorted for redundancy, the broader themes were analyzed (Creswell, 2015; Hays & Singh, 2012).



## **Data Analysis**

Braun and Clarke (2006) suggest thematic analysis is an independent method of analysis rather than a subjugated technique to explain data. They assert the importance of describing the researcher's active role in the process of data analysis. In this vein, the researcher has included a detailed account of the analysis process.

The researcher reviewed each transcript and corrected transcription errors based on the interview recordings. Each question and participant responses were loaded into an excel spreadsheet grouping responses from faculty and graduates of each ID program. A table was developed, using Microsoft Word, that allowed side by side comparison of faculty and graduate responses. The codes most relevant to the research questions were highlighted in red font for the first review of responses. The second review highlighted additional codes that suggested a pattern in data, in blue font. Potential quotes from faculty and graduate responses that illustrated the developing themes were captured in green font. The researcher then added a third column to the table and copied, collapsed, and compared themes from faculty and graduates.

Two researchers reviewed the identified codes and themes, documented in the codebook, and provided feedback. The major and minor themes of the data were analyzed. The point of saturation was reached when the team determined no new codes or themes emerged from the data, and 100% agreement was reached on the codebook.

This chapter described the research design, sample population, data sources, interview protocol, data collection and data analysis procedures for the study. In chapter 3, the results of the thematic analysis of the data will be presented and summarized.

## **CHAPTER 3**

### **RESULTS**

This chapter presents the results and analysis of the research question data. The salient points of the respondents and supporting quotations are provided.

Only 65% of 2015 college graduates reported being employed in their chosen fields in the years following graduation (Smith, et al., 2016). In 2016, only 77% of college graduates believed their education prepared them for the workforce (Smith, et al., 2016). In the instructional design field, studies also found discrepancies between the skills and competencies required by employers, and those mastered by recent graduates of instructional design programs (Larson & Lockee, 2009; Sugar, 2014b). These studies specifically indicate that instructional designers are not prepared to conduct an evaluation of instruction after graduating from instructional design Masters' and Ph.D. programs. The lack of empirical evaluation data substantiating the relevance and value of instruction, in various industries, may be correlated with the absence of practice in educational settings.

The instructional design field has identified the ability to implement formative and summative evaluation plans as a novice level competency for professional instructional designers. Employers have also reported their expectation that instructional designers be skilled in instruction evaluation (Koszalka et al., 2013).

#### **Participants**

The data collected for this study was the result of curriculum mapping 16 Masters and Ph.D. instructional design programs and conducting 29 semi-structured interviews of faculty and postgraduates of these programs. The study was designed to compare the curriculum map data

with faculty and graduate responses of each participant university. The completion of the curriculum maps was requested of the faculty interviewees.

Three participant universities did not have postgraduate representation, and four did not complete the curriculum map with evaluation instruction data. Two of the universities without postgraduate representation also did not complete the curriculum map. The other two universities, although providing faculty and graduate representation for interviewing, did not complete the curriculum map.

The researcher was introduced, via email, by 14 of the faculty members to one or as many as three, postgraduates from their Masters' degree or Ph.D. programs, to be interviewed for the study. The researcher selected the first postgraduate to respond to the email invitation when multiple postgraduate candidates were recommended. There were three ID programs without postgraduate representation. Two of the programs, although having faculty representation, did not respond to queries for an introduction to a postgraduate representative. The postgraduate of the third program did not respond to the invitation to participate in the study. No other names were offered in response to subsequent requests by the researcher.

The thirteen postgraduate participants held degrees and job positions with various labels, each functioned as an instructional design practitioner: Ph.D. in Instructional Design (2), Instructional Systems Technology (1), Educational Technology (2), Instructional Technology and Development (1), Ph.D. candidate in Curriculum and Instruction (1), Master of Science in Instructional Psychology and Technology (1), Master of Arts in Instructional Systems Technology (1), Information and Learning Technology (1), Organizational Performance and Workplace Learning ((1), Instructional Design and Development (1), and Instructional Design (1). The sixteen faculty members, each having a Ph.D., represented various degree programs as

well, Instructional Technology, Educational Technology, Instructional Design, Education, Educational Research Measurement and Evaluation, Instructional Systems, Instructional Science and Technology, and Instructional Psychology and Technology. Two of the faculty members had no direct instructional design experience, however, they were experts in evaluation.

Sixteen (30%) of the 53 universities contacted, agreed to participate in the study. Eleven faculty members of the 16 universities returned a completed curriculum map indicating which courses in the program curriculum, included instruction on formative and summative evaluation. The curriculum maps were completed and returned by 11 of the 16 faculty members who were interviewed. Two of the faculty members completed the curriculum map identifying courses teaching evaluation in response to the initial invitation. Nine faculty members reviewed the curriculum maps, forwarded by the researcher, and modified the program course list if there were any course omissions.

Interviews were conducted with faculty members of 16 universities dispersed across the United States. The study comprised Instructional Design and Educational Technology programs of the following U.S. regions: three programs in the West, three programs in the Mid-West, two programs in the Southwest, seven programs in the Southeast, and one in the Northeast. The faculty represented seven Masters' Degree programs, five Ph.D. programs, and one Ed.D. program; three programs offered both the Masters' degree and Ph.D.. Three of the programs were online only. The Carnegie Classifications for the participant universities are below (see Table 4).

The Carnegie Classification of Institutions of Higher Education designates doctoral universities with the ranking of R1- very high research activity, R2- high research activity, or D/PU- Doctoral/Professional Universities category. The Carnegie Classification creates a

framework for comparing universities. Universities qualifying for R1 and R2 classifications have conferred at least 20 research/scholarship doctorates and reported through the National Science Foundation Higher Education Research and Development Survey, a minimum of \$5 million in total research expenditures. Those universities designated as D/PU reported less than \$5 million in research expenditures, and 19 or fewer conferred research/scholarship doctorates.

Table 4

*Number of Participant Universities by U.S. Region and Carnegie Classification*

Region of the United States	Number of Participant Universities	Carnegie Classification		
		R1	R2	D/PU
West	3	1	2	0
South West	2	2		
Mid-West	3	2	0	1
South East	7	2	5	
North East	1	1		

**Common Core Courses Offered by Instructional Design Graduate Programs in the U.S.**

The common core courses of Instructional Design program curricula, and specifically those courses that address formative and summative evaluation, were identified in this study. The study was designed to explore whether faculty members and postgraduates agreed on the preparedness of students to evaluate, their design products and programs, based on the course offerings of Instructional Design Masters and Ph.D. degree programs.

There were 196 program courses identified on the 16 curriculum maps. Ninety of the courses from the 11 curriculum maps that were completed by faculty, including internship, and capstone courses, were reported as inclusive of instruction of formative and/or summative evaluation of ID products or training programs.

Campus-based and online instructional design degree programs were included in the study. Four of the programs, although not conferring degrees with the instructional design title, e.g. educational technology, trained students as instructional designers. The study found 28 different degree titles, based on the program data sources, related to the preparation for the instructional design field; the most common titles were Curriculum and Instruction, Learning Design and Technology, Instructional Technology, Learning Technologies, and Instructional Design and Technology. The data also revealed 313 core courses offered by Ph.D. programs at various institutions; the most common core courses listed, were Instructional Design, Advanced Instructional Design, Curriculum Theory, Needs Assessment, Internship in Instructional Technology, Instructional Systems Design, and Theories of Learning and Instruction. An additional 157 elective courses were offered by Ph.D. programs; the most common elective courses were Multicultural Education, Foundations of Distance Learning, Educational Foundations, and Message Design. Furthermore, 256 research courses offered were offered by Ph.D. programs at various institutions; the most common research courses were Quantitative Methods, Qualitative Methods, Qualitative Research, Educational Research Methods, Multivariate Analysis, Introduction to Qualitative Research in Education, and Mixed Methods.

Formative evaluation was most frequently reported, as indicated by program design and faculty members, in the curriculum of the following courses: Introduction to Instructional Design (12), Advanced ID (7), Adult Learning Principles (1); Designing Online Instruction (11); Human Performance Technology (HPT) (6); and Evaluation (11).

The curriculum of Designing Online Instruction (6), Instructional Design (11), Advanced ID (6), and Evaluation (11) courses, identified the inclusion of summative evaluation. Although the focus of this study was formative and summative evaluation instruction, it is interesting to

note that confirmative evaluation was just as limited through course offerings: Advanced Instructional Design (1), Evaluation (8), and HPT (4). The ID programs (10) requiring Capstone courses, practicums, or internships expected graduating students to demonstrate the ability to conduct formative and summative evaluations, with one program also requiring a demonstration of the use of confirmative evaluation.

Post graduates acknowledged the courses with the following titles, as most effective in preparing them for work after graduation, Fundamental Instructional Design, Advanced Instructional Design, E-learning (included online course development and technologies), Instructional Design Theory, and Product Evaluation. Faculty identified Fundamental Instructional Design, Advanced Instructional Design, Product Evaluation, Media, Human Performance Technology, and the internship projects as most advantageous (Table 5).

Table 5

*Courses Identified to Best Prepare ID Students as Professionals*

Courses to Best Prepare Students for the Field	Postgraduate	Faculty
Introduction/Fundamental Instructional Design	11	10
Advanced Instructional Design	7	6
Capstone	1	2
E-learning Trends and Issues	4	2
Creative Design (Graphic Design/Online	1	
Instructional Strategies	2	1
Theory	4	2
Product Evaluation	4	5
Id Trends and Issues	2	1
Assessment	1	2

Media	1	4
Internship	1	4
Instructional Systems Technology	1	
Human Performance Technology		4
Needs Assessment		2
Cognition and Instruction		1
Adult Learning Theory	1	
Research	1	1
Visual Design	1	
Emerging Technologies		1
Learning Content Design		1
All		1
Project Management	3	
Games and Simulations	1	
Leadership Impression Development		1

### **How Instructional Design Graduate Programs in the United States Prepare**

#### **Instructional Design Students to Conduct Formative and Summative Evaluation**

There were five primary themes generated for research question two: the ADDIE approach – fundamental design skills, the ability to synthesize models in context, adult learning theory, soft skills, and experiential learning.

#### **Competencies Instructional Designers Should Possess to be Prepared for Employment**

When postgraduates were asked which skills or competencies instructional designers should possess to be prepared for work after graduation, they indicated a need to understand adult learning (4) and design theory (4), fundamental instructional design skills, described as the ADDIE process by the participants (13), and instructional systems design models, specifically the ability to synthesize the models for the appropriate context, (4) assessment (1), writing



learning outcomes or objectives (1), and evaluating (formative and summative) (5) to determine whether the learning outcomes had been achieved.

Graduates also stressed the importance of a balance of technical and soft skills, such as adept listening skills, the ability to accurately interpret the needs of the customer, and the ability to work with a team, including subject matter experts and other stakeholders (4). This finding is consistent with recent studies of ID professional competencies (Klein & Kelly, 2018; Klein & Jun, 2014; Mani, 2013). The need for competency in technical skills (1), backward design (1), patience, (2) and the ability to interpret what you are hearing, was also suggested (see Table 6).

One postgraduate explained that important competencies to master, included the understanding of theories and assessment, but stressed the significance of continual evaluation of learning outcomes.

*Is - I definitely think that they should have an understanding in theory, in theories of how people learn, theories of design, different aspects, I mean there are lots of ways that people choose to do it. I also think that they should have an understanding of assessment, of how to write learning outcomes and evaluate whether those are being met, whether the activities and assessments that they design actually lead back to the learning outcomes that we stated the student was going to learn by taking the course or the class. Then evaluating and literally always in a constant state of evaluation. Extremely important is that there is no end.*

Table 6

*Competencies Instructional Designers Should Possess*

What competencies should IDs possess	Postgraduate	Faculty
Awareness of various tools, including software	1	1
Knowledge of and ability to apply appropriately adult learning theory	4	2
ADDIE framework	6	6
Basic Design		
Learner analysis and situational context	2	4
Needs assessment, research, (i.e. is training the answer)	1	2
Develop appropriate learning objectives, alignment	1	3
Application of appropriate instructional strategies	1	1
Assessment	1	2
Understanding of and the ability to articulate the importance of formative and summative evaluation to the design process	5	4
Sequencing skills	1	
Instructional Systems Design Models, e.g. Dick and Carey, ability to choose correctly and the ability to synthesize models	4	2
AECT standards, IBSTPI competencies		2
A rationale for an ability to defend decision-making	1	1
Listening skills, collaboration (specifically with SME and team members), patience, communication, accurately interpret needs	4	1
Flexibility and creativity	1	2
Analytical mind, problem solvers	3	3
Possess a balance of hard and soft skills	3	4
Production competencies		
Project management	1	
Ability to consume evidenced-based literature	1	
Design thinking	1	1
Social justice in design and organizations		1
Human Performance Technology	1	1

Faculty members similarly identified fundamental design skills (6), learner analysis (4), needs assessment (2), learning objectives (3), instructional strategies (1), assessment (2), and evaluation (formative and summative) (4). Knowledge of instructional systems design models

were also seen (2) as an essential competency. The balance of hard and soft skills was considered important. Faculty identified these skills as production competencies (see Table 6). Proficiency with learning technologies and the ability to create an efficient, effective end product, demonstrates production competency.

Faculty denoted mastering industry competencies as important. Postgraduates did not classify mastery of standards as critical. Both postgraduates (3) and faculty (3) cited having an analytical mind and being a problem solver as significant. However, faculty also indicated flexibility and creativity to customize contextually appropriate solutions, as a component of effective problem solving (2).

One faculty member offered a unique perspective to the approach of training instructional designers:

*8f - I don't think anyone cares if they understand instructional design principles. I'm a business guy first and foremost. They care what you can do. The ability to conduct a performance analysis that's going to identify or frame the gap between existing and desired performance to determine that the gap is worth closing, identify the causes of the gap, the selection, the creation, and implementation of appropriate solution sets to close the gap, the ongoing evaluation of those solution sets, an ability to do good learner analysis, good task analysis. The ability to do prototyping and iterative design work. It's going to be the use of appropriate instructional models and the development of performance solutions.*

This perspective is interesting, however, if instructional designers do not understand ID principles, they lack the ability to select the appropriate ID model for a training performance

solution. Learner analysis, task analysis, prototyping, and iterative design work are foundational design skills.

Another faculty member highlighted the importance of preparing instructional designers for the specific industry in which they will work.

*10f - The needs of a student who is going into business and industry or a non-K-12 setting look a little different than K-12. They need hands-on experience, above and beyond everything else. They need to apply concepts in their contexts, and I'm talking across our programs, like if I were to pick universal threads. the loop of instructional design that goes from objectives ... well, needs, objectives, strategies, to evidence of those strategies. Basically ADDIE. I can teach you where to click on a piece of software, but using that software to develop instruction that's not a firm, hard technical skill, that is a soft skill. The thing that every student needs is as much exposure to applying soft skills, under the guidance of somebody who's done it for a while and can see around corners ... needs to be balanced with the hard skills, like technical proficiency and things like that.*

This statement captures the importance of authentic experience for instructional designers regardless of workplace interest. Real world experience supports the acquisition of tangible and intangible skills in preparation for employment.

The importance of being a problem solver and having good interpersonal skills that support collaboration with subject matter experts and other team members was consistently expressed by postgraduates and faculty. Project management skills, specifically for instructional designers, needs assessment, formative, summative evaluation, the ability to synthesize and apply the correct instructional design system models (2) and learning theory to close

performance gaps were noted. One postgraduate participant recommended learning to identify and consume evidence-based industry literature to enhance ID skills.

*6s - I think they need to be able to consume the literature, evidence-based literature, and be able to discern what is evidence-based versus what is not. I was able to progenerate learning solutions faster and then when I did get the chance, which wasn't often, to evaluate how things were working, I noticed an increase in the impact and the goals being met, and then other things then on getting recruited and collaborating and doing bigger, what I believe is better products. design thinking- can help people produce better products, produce better results should I say.*

Strong interpersonal skills were consistently recognized as critical for instructional designers. The ability to collaborate with subject matter experts and other stakeholders effectively was deemed as imperative as possessing technical skills. Evaluation was identified as an important competency, however, there was an inconsistency with the recognition of its significance and implementation, in professional practice. The following quotes of faculty members and postgraduates highlight these discrepancies.

*If - Demonstrated skill in understanding people, understanding people's situations, understanding people's needs and desires. instructional strategies and how instructional strategies can be used to help people accomplish their learning goals or learning desires. Demonstrated skills in flexibility and creativity and looking for uncommon solutions to common problems. Aware of the different technologies or tools that are available to solve the challenges they face, at least enough to be able to talk about it with other people. Basic knowledge of theory. And this sounds so textbook and very teacher-y, but you have got to understand adult learning principles. Basic ADDIE.*

*5s - They need project management skills. Abilities to conduct need assessments implementing and evaluating systems. Analytical skills for conducting both formative and summative evaluation. Abilities to establish goals. Being able to synthesize the design models and applications of them with learning theories for systematic solutions for developing interventions for closing performance gaps. Good sequencing skills and very good adaptability skills and collaboration skills good listening skills and skills in terms of people skills and abilities to work with teams and partnering with other people content creation skills, media development skills that enable you to select appropriate learning tools and strategies and develop skills that are involved in developing strategies to close performance gaps and to achieve the goals and the outcomes.*

*6f - It's the ITSE standards for instructional designers and instructional technologies are what we try to incorporate into our Ed Tech program and also the AECT and IBSTPI standards. Our team pretty much tried to build those competencies into the whole program, different courses. Of course, in instructional design, they should be doing analysis in terms of learning design, task analysis, learner analysis, goal analysis, the ADDIE model basically. They were doing a little bit of formative evaluation planning in that course but we're moving it all to the evaluation course which is also required.*

### **The Most Effective Instructional Strategies Utilized by Instructional Design Graduate Programs in the United States to Prepare Graduate Students to Evaluate the Instructional Materials They Design and Develop**

There were five primary themes generated for research question three: evaluation is important for instruction improvement, evaluation is not prioritized because of lack of time and resources, there is an inability to persuade stakeholders of relevance and cost benefit, client

based projects are the most effective strategy for learning to evaluate, and instruction in evaluation is limited to certain courses and lacks depth in concentration.

### **Instructional Strategies that Most Effectively Prepared ID Students for Work**

Postgraduates identified developing learning outcomes, creating assessments, having opportunities to apply a design model to a client-based project, designing and demonstrating e-learning, and mobile e-learning instruction, which included coding and HTML practice, learning to develop instructional strategies, and having a foundation in adult learning theory, as the instructional strategies that most effectively prepared students for work as a professional.

The other instructional strategies that were considered to develop competency included, project-based learning that allowed for problem-solving opportunities, specifically, continuous formative feedback from instructors, experiential learning, and developing project management skills.

Postgraduates considered the case study method useful when given the opportunity to deconstruct a design process. Specifically, they distinguished the analysis of the impact of poor communication, and collaboration with SMEs, on successful outcomes. Although the case study method was deemed beneficial, receiving instructor and client feedback through an authentic formative evaluation process, was considered the most effective instructional strategy for job readiness.

As one postgraduate (10s) stated, about instructional strategies that were most effective, *“Getting in there and starting to build stuff so that when I graduated I had something to show off and say, ‘Here are the fruits of my labor’.”*

The majority of faculty also identified the application of instructional principles to real-world scenarios, with or without clients, as the most beneficial instructional activity incorporated into the program curriculum. A faculty member (3f) noted, *“They’re exposed to the concepts,*

*they're exposed to the skills, what they should learn. And then they get practice doing those skills with and without a real client.” Another (9f) stated, “Until you're actually out in the field, it's hard to really know how well-prepared you are.”*

Project-based courses were also considered useful for authentic practice. Faculty reported utilizing both hypothetical and client-based projects to promote learning. A studio approach, team design projects, and team design competitions were utilized to create real-world experiences. Some universities utilized subject matter experts of partnering companies to assume the role of “boss” to create authentic work experiences for instructional design students.

Faculty members reported an attempt to offer projects and client experiences that were tailored to the job interests of the students. Some programs assigned students, as instructional designers to work with faculty within their university programs. There was a recognition that the absence of real-world design opportunities with clients was not optimal for student skill acquisition, however, recruiting organizational clients from the community, was presented as an ongoing challenge. One faculty member shared the feedback that encouraged recent revisions to their ID program.

*16f - But we really wanted to have opportunities for more authentic experience, so I think that will add another dimension to the clinical practice class as well. The clinical experience that they get can be a little contrived because there's a lot of structure in our course. It's good for people to work from different guidelines and frame factors and being part of the team.*

One of the benefits shared when working with employers within the proximal community was the real-time feedback received by programs. A faculty member reported that employers of recent graduates had indicated that those who lacked advanced experiences, were not as



successful during the first six months to a year on the job. Programs that were supported by community businesses identified specific revisions to program curricula in response to employer needs.

### **Instructional Experiences that Prepared Instructional Designers to Evaluate**

Evaluation was acknowledged by faculty members as an important component of design planning. Formative and summative evaluation concepts were reportedly discussed as components of the design process in various courses. However, faculty indicated that the length of the academic semester significantly limited the time for application and implementation of evaluation through the course work (4).

The recognition of this lapse in the curriculum had reportedly encouraged more integration of real-world experiences to practice evaluation (1). Real world client-based experience was cited by postgraduates (7) and faculty (8) as the most effective strategy for preparing students to synthesize theory and practice when evaluating their design products and programs (see Table 7).

Authentic experience was attained through internships, capstone courses, and practicums. Although the real-world experience was deemed as one of the most beneficial instructional strategies for students, there was limited exposure through this instructional strategy because of the outreach and coordination challenges inherent in this approach.

Table 7

*Comparison of Postgraduate and Faculty Reporting of Instructional Experiences that Prepare Students to Evaluate*

What type of experiences – best prepare to evaluate		
	Postgraduate	Faculty
Real world experience	4	6
Internship/capstone opportunity	1	1

Defend decisions publicly	1	
Feedback	4	
Product/program evaluation (formative/summative evaluation	1	3
Project team activities	2	1
SME conflict	1	
Case Study Method	1	1
When and What kind of evaluation to do		1
Maybe unnecessary		1
Experience with real instruments, collect real data, write up		1
Difference between theory and practice		1
Forced decision making	1	
Capstone (first time to apply full process)		1
Understanding the instructional systems design models		1

The curricular maps and faculty interviews indicated that most participant programs (11) offered at least one course designed to provide instruction in evaluation. These courses introduced formative and summative evaluation of discrete products and programs. Fundamental (11) instructional design, advanced instructional design (7), designing online instruction (11), and evaluation courses (11) most frequently included formative and summative evaluation instruction (see Table 8).

Table 8

*Core Courses Including Formative and Summative Evaluation*

Core Courses	Formative Evaluation	Summative Evaluation
Introduction to Instructional Design	12	11
Advanced ID	7	6
Adult Learning Principles	1	
Designing Online Instruction	11	6

Human Performance Technology (HPT)	6	
Evaluation	11	11
Capstone	1	1
Internship	1	1
Practicum	1	1

Eleven graduates reported an average of 36% of program coursework incorporated the type of instructional activities best suited to prepare ID students to evaluate. The percentages of preparatory coursework ranged from 10 to 80%, with a median of 25%. Eight faculty reported an average of 45% of program coursework incorporated these instructional activities. The range for faculty scores was 8 to 100%, with median scores of 33 and 50. The faculty reporting 90 and 100%, considered their project-based learning curriculum to offer real-world practice in each course, whether client-based or not.

Postgraduates and faculty expressed the importance of a problem-solving approach that allowed the instructional design student to work in an authentic team experience. This experience was expected to require the ID to resolve interpersonal conflict with team members and particularly, a subject matter expert (SME).

The application of ID principles and learning theory through the case study method was considered good practice. However, postgraduates expressed the desire to receive more guidance in the consequences and recovery following a poor decision-making response to a case. This desire for detailed feedback was also seen as critical support in improving student approach to the evaluation of instructional products and program evaluation. Although the case study method and the problem-solving approach were considered helpful, they were not considered a substitute for authentic practice with clients.

Faculty added that knowing when to evaluate and the type of evaluation required was also a skill that should be learned by students. Postgraduates and faculty members agreed that building real instruments and collecting real data to analyze, would be advantageous.

*11s - It should start right when they start taking an ID class. Maybe they take ID as a knowledge-based course and then they have an application-based course following. Any course that ties into that application need to have projects similar to this I wouldn't have come to my first job as an instructional designer wondering what the heck I do.*

*3f - The best preparation they can get to do evaluation is to know when to do an evaluation. And then what kind of evaluation to do. And so knowing when to do that.*

*2s - So I think that there's no bible that would teach you what to evaluate. I think that it's very project-specific. Because it's based on a target audience and the goals and objectives of the course. There are various forms of evaluating and checking in and examining quality and revising and so forth that happened in the process but it happens beginning end and everywhere in between, conducted then multiple points- before, after, later follow up, formative as often as feasible and appropriate, getting feedback from client during the design phase, potential learner review, try to do all phases however client feels they got feedback from summative, reaction to training – a few months later – then again longitudinal review, formative summative - you're lucky in the industry if you get to do much of it, but if you have a big project or a high stakes project, the evaluator should be involved from the beginning.*

The previous quotes suggest that evaluation should be interwoven throughout the ID program and integrated from the beginning of the design process. These statements also imply

that the ability to select the appropriate type of evaluation for various phases in the design process, is an acquired skill.

The frequency with which instructional evaluation should occur was consistently recognized by both faculty and postgraduates (11 respectively). Terms such as "throughout", "continuously", "all the time", and from the beginning", were used to describe the optimal frequency of evaluation. However, the data suggests that the majority of instructional design programs represented in the study, do not designate sufficient time or focus on instructional evaluation. The postgraduate quotes that follow capture both the deficiency in ID programs and in the workplace.

*3s - I was taught about evaluation by doing a case study during my instructional strategies and assessment course. I think if I would have had an opportunity to test it with a real group of people or even my classmates, that would have been maybe a little better experience, the real application of it would have been great.*

*12s - ... based off of coursework and coming in not really having an ID background, so to speak, so being a new instructional designer based off the coursework, a lot of books, a lot of students will sometimes tell you that, and even if you look at the models, the evaluation is the last piece a lot of times. Do you know? Even in ADDIE, that last E is the evaluation. You're going through all these steps, and then the evaluation is the end. So right off the bat, if you were to ask somebody, I think people just assume that evaluation should be at the end. So, I think we were taught that it doesn't necessarily have to be at the end, but I think it's kind of just engraved originally that, Okay, evaluation's just the last thing that you do." Again, I think once you're in it, you understand, like, Okay, that doesn't necessarily have to be at the end. Actually, it's more crucial.*

*3s - It's often forgotten from what I understand. I only have four years of experience and I can have a very biased beginner position but evaluation doesn't seem to be the focus of many organizations as their training tools especially if their...they just simply want us to build what they think they need and do a survey afterward or measure some sort of behavioral output immediately. There is no there's no real iterative process of making improvements. Or looking at it in the long term from an evaluative point of view.*

Faculty members and postgraduates experienced client resistance to evaluation throughout their careers. Experienced designers iterated the challenge of presenting evaluation as an indispensable factor to ensure instructional effectiveness. One faculty member speculated whether lack of evaluation practice when working with client partners could be considered an authentic experience for students.

*6s - I think they're just completely deeply connected in theory. In practical terms in my career, I've probably generated, I've probably built, gosh, maybe 500 learning solutions in my life. Some bigger, some smaller, and I would say I've probably done 10 evaluations, formal evaluations. It just tells you it's just not valued. People's instincts, organizations' instincts are if you build it we feel that it's needed, therefore build it, the rest will take care of itself. I believe that evaluation is critical because it's the light, it sheds the light on things that are dark.*

*11f - The tendency to push evaluation to the end of the project is not ideal for demonstrating best practice however it is realistic and creates an authentic experience when dealing with clients.*

*8f - It depends a lot on the project risks and the ability of the ID team and the client organization to identify and mitigate risks. The riskier the project, the more evaluation*

*you need. The less risky the project, the less evaluation you're going to need. Not all clients are interested in ROI, throughout the entire process, I never get a summative evaluation, evaluation and design go hand in hand – throughout, as frequently as possible, all the time.*

*Most important, convincing those who do not evaluate of its importance and those who are incorrectly evaluating how to improve, I think it's crucial.*

*8s - I tell them that if we're not evaluating whatever it is that we do, we are literally committing departmental suicide. Because we cannot prove our worth as a department if we are not evaluating our work.*

Post graduates expressed concern about the lack of evaluation, to determine the achievement of learning goals, and on departmental longevity. However, there was no apparent counter argument to address customer resistance to the evaluation process.

### **The Challenges to Effectively Preparing Students to Evaluate**

Faculty spoke to the challenge of creating the opportunity for evaluation practice. “The best way to prepare them is to teach them when to do it, when not to, and what type, very important need to know whether successful, having an impact.”

*14f - Students are not receiving the optimal time to practice evaluation given the time constraints and client resources. The tendency to push evaluation to the end of the project is not ideal for demonstrating best practice however it is realistic and creates an authentic experience when dealing with clients.*

This identifies a key area of challenge – if it is difficult for experienced ID professionals to persuade organizations of the importance of the evaluation process and data, how could an approach be designed to model this best practice for students.

*2f - We have two courses dedicated to evaluation. The product evaluation course is the host of activities from usability, to expert review, to user testing, formal evaluation, summative evaluation of a discrete product or project, and then the program evaluation course looks at systems and organizations and introduces students to those skills. Then in our design courses, evaluation is integrated as an expected activity that they engage in as they're conducting their design work.*

There was not a guarantee that each student would experience an evaluation process. The opportunity depended on the project that was chosen for the internship or capstone courses (2). The internships (6) may or may not (1) have offered this opportunity. However, capstone projects required demonstration of all phases of the ADDIE process. When students were required to complete an internship or client-based capstone course both the instructor and client completed a grading rubric to assess performance (5).

One program had recently modified the approach to evaluation. *“They conduct formative and summative evaluation over two semesters, they are required to consider different types of evaluation (14f).”*

Another faculty member stated, *“I’m not sure whether students are competent in the area of evaluation (4f).”*

*3f - And so they're not required to do instructional evaluation project in that research class and then they do the internship where they may or may not do an evaluation in a formal way. So we don't require it. So not every student gets that.*



*We put more emphasis on strategically aligning design with organizational goals and initiatives. Focus on the ADDIE model for designing instruction, included in the model, developed through an application or a class project, not client. They conduct an evaluation in an internship project. The client project is chosen by the student. Formative and summative evaluation depended on the client and the project chosen. The student received feedback from the client and instructor."*

Evaluation is considered an integral component in the ID process. The inconsistency of focus on evaluation, within the curricula of ID programs, contradicts ID standards and IBSTPI competencies. Postgraduates expressed concern about the deficiency in evaluation practice.

*8s - The evaluation we did at the end I think was more of a peer-based evaluation. It really wasn't a client-based evaluation. There was a miss there. Then again, we're talking about 16 weeks. That was actually done through a case study, but then I had the great opportunity to do an internship for two months."*

The most frequent responses regarding the challenges to teaching evaluation were the absence of real-world experience and the discomfort with the subject matter for instructors. There was a suggestion by one faculty interviewee that instructors may try to avoid the topic because of this discomfort. Professional evaluators were used to teach ID students in three of the programs, rather than instructional design program faculty. In some cases when authentic evaluation experiences were available, students had difficulty balancing the demand for academic requirements and client expectations.

*13f - So a lot of our teachers coming in have a hard time thinking about how to evaluate a program or course or something like that because they've never been presented with that. The person that does our evaluation, has a degree in evaluation, and research, and*

*stats. They're doing it while they're in an academic program and they're trying to meet the requirements of an academic course, while they're trying to meet the needs of a client, too. So that can be hard on the students. We do the smile sheets because executives and senior managers don't care. Kind of combating the tendency in any project to push evaluation off to the very end can be challenging. The challenge there is do you have a place where you're going to get the data that makes the concept come alive and really gives you a sense of what's evaluated.*

*7f - I think trying to qualify projects is always hard because if students are going to do a real evaluation project, the client ideally has to have some sort of skin in the game. I think that a lot of instructors don't feel comfortable with it. They try and avoid it if they can. But I think the challenges that I've seen at a few institutions is that a lot of faculty don't want to have anything to do with it. And they don't like what they consider to be the constraints that might come along with it. They don't feel trained in it.*

*If - The biggest one is finding meaningful evaluation projects. We really want it to be something that's substantive to the client, that they really need help with, and it's not just a make-work project. Finding those can be challenging*

*6f - I think the challenges are just more of the standard real-world challenges for evaluators, helping people understand why evaluation is important.*

Persuading clients, of the value of evaluation, and customer feedback to the students, was complex. Instructors noted that this was an authentic experience, given the resistance to evaluation that is encountered by instructional designers in real-world settings. Although authentic in nature, the absence of practice in evaluation planning created a void in the curriculum and student experience.

### Instructional Designers Perception of Employer Expectation Concerning Evaluation

Faculty and postgraduate participants of this study held varied perceptions of the expectations of employers concerning evaluation. Faculty members (6) and postgraduates (6) stated that employers expect instructional designers to possess basic evaluation skills. Both groups also reported that evaluation was not a priority for employers (4, respectively), or it depended on whether the work environment was higher education or corporate (3, 1) (see Table 9).

Table 9

#### *Perceived Expectations of Employers Concerning ID Students Preparation for Evaluation*

Expectations of employers concerning evaluation		
	Postgraduate Faculty	
Have the ability to adapt the ID approach and evaluation process to that of company	1	1
Not a priority for employers/lack understanding of evaluation	6	5
Understanding of evaluation- ability to read and analyze data	3	3
Focus on program evaluation vs product evaluation in course work	1	1
Different expectations in higher ed. vs corporate		1
Production competencies	1	
Seeking measurable outcomes	1	
Ability to assess performance issues		1
Don't understand the expertise of IDs	2	
Basic knowledge and ability to apply knowledge of instructional design	2	1

Evidence of previous experience	1
Unrealistic expectations	2
Ability to problem solve, communicate, lead, and mediate group conflict, collaborate with stakeholders	1
Understanding of cultural and societal differences in design	1

### How ID Programs Could be Modified to Better Prepare Students to Evaluate

A variety of topics were recommended by postgraduates and faculty members to improve the preparation to evaluate as a professional (see Table 10). There were also faculty members who believed their programs represented a fair balance between theory and application of ID principles.

*2f - Any experience I think working with a client or project-based, or case study, where you can immerse the student in the messy problem and have them find their way, their solution out of it, they'll review case studies, they'll do readings, kind of the classic curriculum kind of things, but they also do engage with a client on a real evaluation project.*

Table 10

#### *Recommended Modification to ID Program Curricula*

Course activities to be modified or added concerning evaluation preparation		
	Postgraduate	Faculty
Real world experience	4	2
Primary sources for reading rather than textbook		1
Systems needs analysis	2	1
Designing Assessments and Rubrics		
Creating tutorials/job aids		
Evaluation	3	3

Data Literacy Skills		1
Portfolio Development	1	
N/A		5
Technology	2	1
Agile		
Design Thinking		1
Defined client	1	
Feedback	1	
e-portfolio		1
Continual group-based project	1	
Face to face opportunities for online-only students		1
Studio time		1
Cross-institutional projects		1

Postgraduates identified real-world experience with clients as an important modification to their ID programs. This included problem-solving scenarios that provided the opportunity to practice integrating theory and practice. Other suggested modifications or additions to current programs were allotting more time to practice evaluating products, creating assessments and rubrics, and completing needs analysis.

In response to employer demand concerning web-based design technology, postgraduates suggested exposure to e-learning design tools, e.g. Articulate Storyline and Adobe Captivate. Although there was recognition of the frequent updating to the applications, familiarity with these tools was considered supportive of employer expectations.

*3s - Trends courses could have a little more about theory and how theory applies to the design and development process in particular. I think in turn that would influence the integration of evaluation in the rest of the curriculum for the program. ...A good way to summarize it is adding problem-solving with real-world examples.*

*2s - I think they need to be caught in the middle of SME conflict, where you're sitting there with a project manager and a group that has subject matter experts, and you're the instructional designer. They're evaluating and telling you why it didn't work, and you*

*have to go back and fix it. The internship prepared me for the Capstone project. And Adult Learning Theory prepared me to go into the workforce and work in human resources, and Instructional Design and Advanced Instructional Design, they helped prepare me for going into ID mode,... and navigating this crazy world of SMEs and project managers. If I could have added anything for my own education, it would have been that I would have been given access to higher-level systems, like more experience with Articulate Storyline and Adobe Captivate.*

One postgraduate (2s) reported that she had been fortunate to serve as project manager for a real-world design activity for a group of ID students from her alma mater. The group met once a week for two semesters to design a course for her company. *"I thought it was a fantastic way for them to experience working on a real-world project with a real company."*

Five faculty members reported that no modifications were necessary to their programs. Two of the programs had recently revised their curricula to include an e-portfolio, and to incorporate, based on job announcements and employer feedback, design thinking and AGILE. Two faculty reported that student feedback and the reputation of the program was considered a testament to having attained the correct balance of theory, practice, and real-world experience. The other faculty stated that evaluation was not a priority. All postgraduate participants made suggestions for modifications to their ID programs.

*4f - No, I don't think I would make any changes. You need to balance some classes to provide a theoretical foundation, some courses won't have applied projects.*

There were faculty who recognized the benefit of increasing real-world experience and practice with evaluation for students. Although faculty responses did not include adding practice

with e-learning tools, there was an awareness that job announcements were requiring more experience with various technologies, design thinking, and the AGILE model.

*2f - Actually, we are trying to create partnerships with organizations that have ongoing evaluation needs. What we want is we want a system where we have clients with ongoing evaluation needs that they and we just expect that every year we're going to engage with them.*

One faculty member suggested eliminating textbooks and increasing reading rigor with the use of primary sources that address evaluation. Concern about the ability of instructional designers to analyze the data collected through evaluation was broached.

*2f - I do think that rigorous readings are a good part of the preparation for evaluation or any professional discipline, but I want to see primary sources and not textbook-like readings, in the future for evaluation. That it's getting a little bit more rigor and more systematically taught and covered.*

*3f - But do they know how to speak in terms of descriptive data qualitative data assessment performance data on tests but also performance data on job performance and are they kind of comfortable in that world of data. And right now we're not there.*

An interesting perspective raised during the study was the question of whether evaluation of instruction continues to be relevant in the design process. Given the absence of evaluation planning in professional practice is evaluation an essential component for ID practitioners.

*3f - It's often not done. It's possible that maybe evaluation is not appropriate for doing these kinds of evaluations is not as central to the field as we think it might be. If professionals are out there not doing it and getting along very well thank you then it's possible that it's not just a corruption of their practice.*

*12s - My experience with a corporate client was – uninterested just design and develop a mandated course. Education is more demanding for formative and summative – designing a special ed. course and following state guidelines; Evaluation critical. if you look at studies of practice evaluation gets dropped or neglected all over the place.*

The importance of real-world experience of evaluation was recognized by both faculty and postgraduate participants. However, both also noted the lack of opportunity for practice within the curriculum of ID graduate programs. Faculty participants identified the difficulty in creating business partnerships that considered evaluation a critical component of the ID design process. If the faculty of ID graduate programs grapple to convince client partners and potential employers of the importance of evaluation, this may provide insight into why IDs, as an industry, are ill-prepared to evaluate when initially hired.

### **Limitations**

The researcher acknowledges the potential disadvantage of interviewing subjects: the participants could have been hesitant to provide honest feedback concerning their employers or alma maters. However, both faculty and graduates appeared to provide an honest account of their experiences in their respective programs. The various geographic locations, of participants, differences in time zones, and inclement weather created a challenge for scheduling and connection. Interviewing by phone, inherently, produces obstacles in managing the interpersonal engagement with the participants. The ability to support understanding and trigger follow up queries through non-verbal communication cues may be lost (Creswell, 2015, p. 388).

Course offerings, titles, and descriptions of courses, instructional design models, as well as program and degree designations, differed across ID programs making it challenging to compare the curricula. One graduate was not required to attend each of the ID courses offered by



the program after receiving a waiver, for transfer credits. Her responses incorporated experiences from two Masters' level ID programs.

### **Summary**

The primary themes generated for research question two, which addressed how instructional design students are prepared to conduct evaluation, were: the ADDIE approach – fundamental design skills, the ability to synthesize models in context, adult learning theory, soft skills, and experiential learning. Faculty and postgraduates identified fundamental design skills, and interpersonal skills, as the foundation for preparing to create and evaluate effective instruction. The importance of experiential learning to ensure competency in the application of these skills was considered paramount.

Research question three examined the most effective instructional strategies utilized by graduate programs to ensure competency in evaluation. The primary themes generated for this question were: evaluation is important for instruction improvement, client-based projects are the most effective strategy for learning to evaluate, evaluation is not prioritized because of lack of time and resources, there is an inability to persuade stakeholders of relevance and cost benefit, client-based projects is the most effective strategy for learning to evaluate, and evaluation is limited to certain courses and lacks depth of instruction.

Evaluation of instructional products and programs was regarded as important to the instructional design process by all participants in the study. However, the instruction and practice of evaluation planning were reportedly limited in both academic and professional settings. Situated learning experiences, problem-solving scenarios, project-based learning, and the case study approach were identified as the most effective instructional strategies to prepare instructional designers for the workplace. Postgraduates and faculty suggested ID graduate

programs should modify curriculum to provide the opportunity for authentic practice. Time restrictions and client agreement were noted as challenges to affording instructional design students authentic experiences in preparation to evaluate. Recommendations for application of the findings, implications for change and recommendations for further research are discussed in chapter 4.

## **CHAPTER 4**

### **DISCUSSION**

The findings of this research identified gaps in the instruction of evaluation processes in current instructional design graduate programs. This could explain the lack of formal formative and summative evaluation conducted by instructional designers, and the paucity of data collected to support research in this area.

Skill in instructional product and program evaluation has previously been reported as an expectation of employers (Sugar, 2014b). However, in a recent study of ID competencies (Klein & Kelly, 2018), instructional designers indicated evaluation was "not included in their job responsibilities", and that the instructional project was considered complete after product delivery. The study concluded that evaluation competency may not be an essential skill for entry-level IDs (Klein & Kelly, 2018). The research participants did identify evaluation competency as a critical skill for instructional design (ID) professionals, despite the lack of evaluative planning and practice (Klein & Kelly, 2018; Klein & Jun, 2014). This finding is consistent with the current study.

Instructional designers have been reported as unprepared to conduct instruction evaluation after graduating from instructional design, Masters' and Ph.D. programs (Larson & Lockee, 2009; Sugar, 2014b). Faculty and post graduate participants of this study reported

different perceptions of the expectations of employers concerning evaluation. Faculty members (6) and postgraduates (6) stated that employers expect instructional designers to possess basic evaluation skills. Both groups also reported that evaluation was not a priority for employers (4, respectively), or it depended on whether the work environment was higher education or corporate (3, 1) (see Table 10).

Five postgraduates and four faculty selected evaluation as a competency that should be required for ID students. Even though the ADDIE process, which includes evaluation, was considered important by faculty and post graduates, when asked specifically about evaluation, most participants of both groups, recognized that evaluation was not prioritized in their graduate programs.

The execution of formative and summative evaluation plans is recognized as an essential instructional design competency (Koszalka et al., 2013). Faculty participants identified the ability to master industry standards as important, however, there was no concurrence by post graduates. This incongruity in expectations may help to explain the discrepancy between the skills and competencies required by employers, and those mastered by recent graduates of instructional design programs (Larson & Lockee, 2009; Sugar, 2014b). This study found that faculty and postgraduates judged evaluation as an important component of the design process. However, as expressed by most of the postgraduates and faculty, evaluation delivery was not presented as a primary task.

The most effective instructional strategies identified by respondents, for preparation as instructional designers, were consistent with the results of previous studies: situated learning experiences, problem-solving scenarios, project-based learning, and the case study approach (Fitzgerald, et al., 2011; Johari & Bradshaw, 2008; Woolf & Quinn, 2007). Experiential learning

positively contributes to the retention and understanding of formative evaluation course materials for novice instructional designers (Weinberg & Stephen, 2002). Real world or authentic experience was consistently suggested by postgraduates and faculty as an important modification that should be made to ID graduate programs, not providing this opportunity.

Novice instructional design students are expected to graduate from ID programs with the ability to identify and employ suitable ID models for their workplace context (Koszalka et al., 2013; Slagter van Tryon, et al., 2018). Project-based learning and authentic learning experiences motivate students through the integration of realistic problem solving that promotes cognitive realism (Herrington, Oliver, & Reeves, 2003; Herrington & Herrington, 2008).

The primary challenges to teaching evaluation was cited by faculty respondents as the absence of real-world experience for students, and the discomfort of ID instructors with the subject matter. The outreach and coordination efforts inherent in this approach were reported to limit the use of this strategy. Persuading client partners of the value of evaluation was perceived as difficult. This data may offer an important perspective on the lack of evaluation practice by instructional designers. If the faculty of ID graduate programs contend with client partners and potential employers concerning the importance of evaluation, it is reasonable that ID graduates are ill-prepared to evaluate when initially hired.

When students had the opportunity to engage in a PBL experience that mimicked the professional process through authentic decision-making, with the option for multiple outcomes, there was buy-in (Roach, Tilley, & Mitchell, 2018). The application of professional practices requiring realistic outcomes served to create successful authentic learning activities (Roach, et al., 2018). Interestingly, "real" client experience and business context were unnecessary for

professional novices to experience cognitive realism. Tasks perceived to be of personal value to students, and to the industry community of practice, motivated students to take ownership of their learning (Herrington, 2015; Roach, et al., 2018; Slagter van Tryon, et al., 2018).

Clark (1978) proposed that graduate programs prepare students through authentic practice, and experienced role models who provide strategies and procedures to navigate the nuances of their chosen professions. Authentic learning experiences provide practice, in the application of theory, and development of important professional skills, that are critical to postgraduate employment (Wakeham, 2016).

The ability to design authentic learning environments is challenged by time and contextual resources (Herrington, 2015). Research has demonstrated that a full semester of meaningful, creative, contextually, accurate activities are critical for success with the authentic learning instructional strategy (Herrington, 2015). Students required activities that were consistent with the context of their professional workplaces (Roach, et al., 2018). The perception that a task is irrelevant in the professional context decreased the level of student buy-in (Roach, et al., 2018). Although project-based and authentic learning has been reported, in this study, and other research, to be significant in the instruction of ID professionals, limited empirical data for benchmarking this practice is available (Slagter van Tryon, et al., 2018).

This study sought to explore whether formally operationalizing formative and summative evaluation plans are considered an essential competency by those who prepare instructional designers for work. Evaluation was incorporated into the curriculum of 46% of courses attended by instructional design students in the study. The instruction of formative and/or summative evaluation of ID products or training programs was reportedly delivered in 90 of the 196 courses identified from the curriculum maps, completed by faculty. Although approximately 90% of

faculty and students described evaluation as critical, important, or necessary, to determine effectiveness throughout the design process, postgraduates and faculty reported limited opportunity for authentic practice.

### **Conclusion**

The findings of the study revealed that the primary focus of the participant programs was preparing students to execute an effective design. Evaluation was not prioritized for most ID programs, due to lack of time, client resources, employer lack of interest, and limited faculty experience in evaluation.

The standardization of U.S. ID graduate program curricula, based on AECT standards and IBSTPI competencies, could potentially promote a balanced focus on instruction evaluation and a robust instructional systems design foundation. These industry standards and competencies identify ID professionals as the most appropriate to manage the challenge of the utilization of PBL and authentic learning experiences. Integrating the PBL and authentic experiences, within the framework of these standards and competencies, would potentially ensure the preparedness of ID professionals to satisfy employer expectations. Experiential learning activities would also provide the opportunity for novice IDs to acquire the communication, interpersonal, and collaborative skills highly desired by employers (Klein & Kelly, 2018). This approach, more importantly, could improve the likelihood of employment for ID graduates.

The inclusion of a uniform assessment process in ID graduate program curricula would ensure instructional designers have mastery in each competency area. The ID industry would have a baseline for collecting data from various work environments to substantiate or improve instruction quality. This methodology could lead to the creation of industry best practices for teaching instructional design and the identification of effective models for evaluation. Empirical

evidence could then be provided to convince organizations of the relevance of formative and summative evaluation. A more robust certification and/or licensing process for instructional designers could be an additional positive outcome.

### **Future Research**

Twenty-five years after Wedman and Tessmer (1993) reported the lack of explicit standards for conducting program evaluations, the paucity of research on evaluation practice persists. The effectiveness of the products and programs created by instructional design professionals are neither consistently being measured nor publicized (Armstrong, 2004; Richey & Klein, 2005).

Longitudinal studies that document the performance change of employees that have experienced well-designed instruction could lend credence to the evaluative process for employers and justify the need for evaluation resources. The opportunity to conduct periodic summative evaluations would require a sense of urgency to validate the intrinsic value and return on investment of instruction, for organizations. However, the prioritization of evaluation that would lead employers to designate these resources requires the instructional design field to determine whether evaluation is a critical element of the design process.

Recommendations for future research would include a comparison of the approaches of instructional designers who have successfully persuaded organizations to recognize the importance of evaluation. The results of this research could lead to the development of a resource for best practices for ID students preparing to evaluate. Identifying the number of instructional designers conducting formal evaluations, and the role the instructional designer plays in an organization's decision to evaluate instructional effectiveness, could be gathered through a national study. This study should also explore whether the language and definition of evaluation

is consistent among instructional designers. For example, are prototyping, the successive approximation model (SAM), or the design thinking approach, considered as formative evaluation processes? Distinguishing the language of evaluation that is currently prevalent among ID practitioners could support a more robust collection of evaluation data.



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## APPENDICES

### APPENDIX A: INVITATION E-MAIL

Dear XXX,

We are seeking instructional design Masters' and Ph.D. degree programs, to participate in the study, *An Exploration of the Professional Preparedness of Instructional Designers to Evaluate*. The purpose of this study is to explore the preparation of instructional designers to evaluate their design products. A curriculum map of the courses offered in each respondent instructional design program will be developed to compare the course offerings with the interview responses of faculty and recent graduates. We expect this study to contribute to the body of knowledge on the topic of evaluation and course curricula in the instructional design field.

Please find attached a curriculum mapping spreadsheet. We are requesting that you complete the spreadsheet with the course curriculum for your institution's instructional design program. After receiving the completed copy of the curriculum map we will aggregate the data into a master spreadsheet for comparison with other participants. We are also requesting the opportunity to interview faculty and recent graduates of your instructional design program. Copies of the curriculum map and interview questionnaire are attached.

Please note that the questionnaire provides the opportunity for responses that reflect your experience with preparation of instructional designers to evaluate. Participants will receive the notes from the interview, by email, with the option to revise their responses for increased accuracy.

I look forward to receiving your responses, and interviewing you concerning this important topic for the instructional design field.

Thank you again for your participation.

Sincerely,

Philena V. DeVaughn

## **APPENDIX B: OLD DOMINION UNIVERSITY INFORMATION SHEET**

### **Project Title: An Exploration of Professional Preparedness of Instructional Designers to Evaluate**

#### **Introduction**

You are being asked to participate in a study that will explore the preparation of instructional designers to evaluate their design products. You are being asked to participate in this study because you are a program director of, faculty member for, or recent graduate of, an instructional design educational program. Determining whether credence and significant time, through course activities, is given to conducting course evaluation, could assist instructional design training and academic programs, to better prepare instructional designers for this important job responsibility. Comparing the course curriculum of Masters' and Ph.D. degree programs in instructional design, could also contribute to more consistency in course offerings in the field.

#### **Researchers**

Responsible Principal Investigator:

Jill Stefaniak, PhD, Assistant Professor, Instructional Design & Technology, College of Education, STEM Education & Professional Studies

#### **Investigators:**

Philena DeV Vaughn, Instructional Design and Technology Doctoral Student, Darden School of Education, Old Dominion University

#### **Description of Research Study**

If you take part in the study, as a program director you will be asked to complete a curriculum mapping document. If you are an instructor or recent graduate of a program, you will participate in a telephone interview, which consists of approximately 15 questions that require you to reflect on your experiences concerning preparation for evaluation, from your perspective.

The telephone interview should take approximately 20 minutes to complete. Extensive notes will be taken during the telephone interview and emailed to you within 72 hours. You will have the opportunity to confirm that the information recorded is accurate, or to identify any required changes.

#### **Risks and Benefits**

Risks: There are no known risks at this time to participate in this study.

Benefits: The opportunity to contribute to the knowledge of the field through your participation in the study.

**Costs and Payments**

There will be no costs to you for participation in this research study. The researchers are unable to give you any payment for participating in this study.

**New Information**

If the researchers find new information during this study that would reasonably change your decision about participating, you will be informed.

**Confidentiality**

All information obtained about you or your institution for this study is strictly confidential unless disclosure is required by law. The results of this study may be used in reports, presentations, and publications, but the researchers will not identify you or your institution.

**Withdrawal Privilege**

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study—at any time. Your decision will not affect your relationship with Old Dominion University, or otherwise cause a loss of benefits to which you might otherwise be entitled.

**Questions**

If you have any questions about this study now or in the future, you may contact Jill Stefaniak at the following phone number: 757-683-6696 or at [jstefani@odu.edu](mailto:jstefani@odu.edu). If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should contact Dr. Petros Katsioloudis, Chair of the Darden College of Education Human Subjects Review Committee, Old Dominion University, at the following phone number: 757-683-4305 or at [pkatsiol@odu.edu](mailto:pkatsiol@odu.edu).

**Voluntary Consent**

By participating in this interview, you are agreeing to participate in this study.

## APPENDIX C: CURRICULUM MAP

### CURRICULUM MAP

**Please submit the course titles and course descriptions for each course offered in instructional design course curriculum for your institution.**

	Course Description	Check the courses that include formative evaluation as a topic	Check the courses that include summative evaluation as a topic
ID&T Core Courses			
Research Core			
Technology			
Instructional Design Concentration			
Human Performance Technology			
Prerequisites			

## **APPENDIX D: INTERVIEW PROTOCOL (POST GRADUATE)**

### **An Exploration of the Professional Preparedness of Instructional Designers to Evaluate**

I would like to thank you for taking the time to participate in this study. I am conducting research to explore the professional preparedness of instructional designers to evaluate.

The information that you share with me will be confidential, and neither you nor your institution will be identified by name. Your responses will be analyzed, along with the responses from other participants, to determine if themes emerge to help us better understand how instructional design students are prepared for practice.

Your participation in the study is strictly voluntary, and you may withdraw from the study at any time.

After we have completed the interview, I will type a summary of the interview and email it to you within 72 hours. Please review the summary, and make corrections to any statement that you feel misrepresents, or omits important details of your responses.

Please let me know whether you have questions about the study or the process.

Participant Code: \_\_\_\_\_

Number of Years Experience as an Instructional Designer: \_\_\_\_\_

Participant's Job Title: \_\_\_\_\_

Level of Education and Degrees: \_\_\_\_\_

Can you provide a brief description explaining your job responsibilities?

What skills should instructional design (ID) students possess to successfully demonstrate understanding of ID principles?

What activities provide the needed practice to ensure mastery of these skills?

How should your level of competence in these skills be assessed?

Which courses in the ID curriculum of your institution do you expect will best prepare you for work in the ID field after graduation?

Why do you think this is true?

How important is evaluation in the ID process?

When should evaluation be conducted in the ID process?

Which courses in the ID curriculum of your institution have best prepared you to conduct formative evaluation?

Which course activities provided the opportunity to demonstrate mastery of this skill?

Which courses in the ID curriculum of your institution have best prepared you to conduct summative evaluation?

Which course activities provided the opportunity to demonstrate mastery of this skill?

Which courses in the ID curriculum of your institution have best prepared you to conduct confirmative evaluation?

Which course activities provided the opportunity to demonstrate mastery of this skill?

What instructional method do you think most effectively helps instructional design students connect instructional design theory to real world application?

What percentage of your course work was delivered using this method?

Which course activities could be modified, added, or excluded to prepare ID students for the real world of ID?

What expectations do employers have of ID professionals?

Were you prepared for your first ID job after graduation? If so, to what do you attribute this, if not, how could you have been better prepared?

Thank you for your time and input.

## APPENDIX E: INTERVIEW PROTOCOL (FACULTY)

### An Exploration of the Professional Preparedness of Instructional Designers to Evaluate

I would like to thank you for taking the time to participate in this study. I am conducting research to explore the professional preparedness of instructional designers to evaluate.

The information that you share with me will be confidential, and neither you nor your institution will be identified by name. Your responses will be analyzed, along with the responses from other participants, to determine if themes emerge to help us better understand how instructional design students are prepared for practice.

Your participation in the study is strictly voluntary, and you may withdraw from the study at any time.

After we have completed the interview, I will type a summary of the interview and email it to you within 72 hours. Please review the summary, and make corrections to any statement that you feel misrepresents, or omits important details of your responses.

Please let me know whether you have questions about the study or the process.

Participant Code: \_\_\_\_\_

Number of Years Experience as an Instructional Designer: \_\_\_\_\_

Participant's Job Title: \_\_\_\_\_

Level of Education and Degrees: \_\_\_\_\_

Can you provide a brief description explaining your job responsibilities?

What skills should instructional design (ID) students possess to successfully demonstrate understanding of ID principles?

What activities provide the needed practice to ensure mastery of these skills?

How do you assess the students' level of competence in these skills?

Which courses in the ID curriculum of your institution do you expect will best prepare instructional design students for work in the ID field after graduation?

What data could you share to support this expectation?

How important is evaluation in the ID process?

When should evaluation be conducted in the ID process?

Which courses in the ID curriculum of your institution do you expect best prepare instructional designers to conduct formative evaluation?

What course activities provide the opportunity to demonstrate mastery of this skill?

Which courses in the ID curriculum of your institution do you expect best prepare instructional designers to conduct summative evaluation?

What course activities provide the opportunity to demonstrate mastery of this skill?

Which courses in the ID curriculum of your institution do you expect best prepare instructional designers to conduct confirmative evaluation?

What course activities provide the opportunity to demonstrate mastery of this skill?

What instructional method most effectively helps instructional design students connect instructional design theory to real world application?

What percentage of course work for ID students is delivered using this method?

Which course activities could be modified, added, or excluded to prepare ID students for the real world of ID?

What expectations do employers have of ID professionals?

Do you think your ID students are prepared for their first ID job after graduation? If so, to what do you attribute this, if not, how could they be better prepared?

Thank you for your time and input.



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## **EDUCATION**

Doctor of Philosophy in Instructional Design and Technology, Old Dominion University,  
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Master of Arts, Education, University of Chicago, Chicago, Illinois 1985

Bachelor of Arts, Social Science (Specialization: Psychology) Michigan State University,  
East Lansing, Michigan 1982

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## **ACADEMIC EXPERIENCE**

### **Adjunct Faculty**

*Upper Iowa University, Fayette, IA*

**10/2015 – Present**

Designs, develops, and delivers online courses via Pearson eCollege learning management system. Prepares all instructional materials, student assessments, and evaluations. Instructor online, critical thinking courses.

### **Premier Faculty Member**

*Strayer University, Herndon, VA*

**05/2010 - Present**

Acted as the Associate Dean, overseeing faculty operations, and student support services. Instructs face-to-face and online introductory psychology courses.

## **PROFESSIONAL EXPERIENCE**

### **Instructional Design Consultant/Trainer**

*Predestinated Image, Waldorf, MD*

**09/ 2005 – Present**

Designs and facilitates clinical and leadership training workshops in classroom and eLearning environments. Consults on instruction redesign, and evaluation planning.